COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM

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BY

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LIST OF ABBREVIATIONS

AMA	Antimicrobial Agents
AMR	Antimicrobial Resistance
ASP	Antimicrobial Stewardship Programme
BAL	Broncho-Alveolar Lavage
BSI	Blood Stream Infections
C/S	Culture/Sensitivity
CAUTI	Catherter Associated Urinary Tract Infection
CLABSI	Central-Line Associated Blood Stream Infection
CPIS	Clinical Pulmonary Infection Score
CSF	Cerebro-Spinal Fluid
DAMA	Discharge Against Medical Advice
DDD	Daily Defined Dose
DLC	Differential Leucocyte Count
I/V	Intravenous
IAI	Intra Abdominal Infections
IEM	Inborn Error of Metabolism
LRTI	Lower Respiratory Tract Infections
MIS-C	Multi System Inflammatory Syndrome post COVID
MRSA	Methicillin Resistant Staphylococcus Aureus
MSSA	Methicillin Sensitive Staphylococcus Aureus
P/O	Per-Oral
PICU	Paediatric Intensive Care Unit
SSTI	Skin and Soft Tissue Infections
URTI	Upper Respiratory Tract Infections
VAP	Ventilator Associated Pneumonia
WHO	World Health Organisation

ABSTRACT

INTRODUCTION: Antimicrobials are the greatest contribution to therapeutics in 20th century. Antibiotics are the most commonly prescribed drugs in Paediatrics. Because of lack of uniformity in drug prescription, emergence of antimicrobial resistance, monitoring and controlled Antimicrobial use is of growing concern and strict Antimicrobial policy is warranted. Antimicrobial Stewardship Program is being implemented worldwide with the target to prevent overuse and misuse of Antimicrobials in order to minimize antimicrobial resistance.

AIM OF STUDY: 1. To compare the antimicrobial prescription practices in admitted children to hospital before and after applying Antimicrobial Stewardship Programme. 2.To study the factors hindering implementation of Antimicrobial Stewardship leading to non-compliance to protocolized antimicrobial policy.

MATERIALS AND METHODS: A prospective observational study conducted in admitted patients in 10 bedded Paediatric ICU before and after intervention in Dayanand Medical College & Hospital, Ludhiana. The study was of 11 months wef 1st March 2020 to 31st January,2021. Between 1st July,2020 to 30th November, 2020 Antibiotic Stewardship Program was implemented. The demographic data, of the patient, diagnosis, laboratory investigations, antibiotics prescribed, outcome were recorded.

RESULTS: Mean age was 5.98 (±5.72) in pre-intervention phase and 6.09(±5.54) in post-intervention phase. Male patients out numbered female patients in both phases. Blood stream infections were the most common infections followed by Lower Respiratory Tract infections in both pre-intervention and post-intervention phase. Most common group of drugs prescribed were Cephalosporins and glycopeptides in both pre-intervention and post-intervention phases. Most common organism isolated from blood and BAL was *Klebsiella pneumoniae*. All the patients were given appropriate dosage of antimicrobials. Most of the patients were on single antibiotic in both phases. Appropriateness of starting and upgradation of Antimicrobials improved after implementation of Antimicrobial Stewardship Program. Mean length of PICU stay reduced (9.52) in post-implementation phase.

CONCLUSION: Antimicrobials should be used in appropriate dose when appropriately indicated in order to decrease the resistance to antimicrobials and for this Antimicrobial Stewardship Guidelines has to be followed.

KEY WORDS: Antimicrobials, Antimicrobial Stewardship Program.

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INTRODUCTION

Antibiotics are precious resources in life threatening infections in ICU's. But the indiscriminate and injudicious use of antibiotics can potentially pose multiple problems for the present and future. Antimicrobial Resistance is most commonly recognized as a threat to treat the critically ill patients in ICU's. The emergence of Multi Drug Resistant Organisms is an increasing and challenging issue for the treating physician. The problem is specifically more pertinent in developing countries particularly like India, Bangladesh. There is an increasing emergence of less number of antimicrobial options available to treat the community acquired and hospital acquired infections. Indisciminate use of antibiotics is known to cause emergence of secondary fungal infections. Considering all these issues in view, the need of hour is to implement Antimicrobial Stewardship Programme in order to curtail the menace of problem of increasing antimicrobial resistance. Despite many proposals and initiatives in recent decades, the world has failed to keep pace with microbes becoming increasingly resistant to available treatments, so-called antimicrobial resistance (AMR). Any antibiotic use contributes to increasing the number of micro-organisms on which drugs have no effect. AMR is thus an unavoidable phenomenon that undermines the effectiveness of basic and modern medicine and is affecting people from birth to death.[1] The inappropriate prescribing and use of antibiotics are contributory factors to increasing antibiotic resistance. Antimicrobial stewardship programmes (AMS) are implemented to optimise use and promote behavioural change in the use of antimicrobials. AMS programmes have been widely employed and proven to improve antibiotic use in many high-income settings. However, strategies to contain antimicrobial resistance have yet to be successfully implemented in low-resource settings. A recent toolkit for AMS in low- and middle-income countries by the World Health Organisation (WHO) recognizes the importance of local context in the

development of AMS programmes. This study employed a bottom-up approach to identify important local determinants of antimicrobial prescribing practices in a low-middle income setting, to inform the development of a local AMS programme.[2] Mainly due to its extremely vulnerable population of critically ill patients, and the high use of (invasive) procedures, the intensive care unit (ICU) is the epicenter of infections. These infections are associated with an important rise in morbidity, mortality, and healthcare costs. The additional problem of multidrug-resistant pathogens boosts the adverse impact of infections in ICUs. Several factors influence the rapid spread of multidrug-resistant pathogens in the ICU, e.g., new mutations, selection of resistant strains, and suboptimal infection control [3] Antimicrobial resistance is increasing; however, antimicrobial drug development is slowing. Now more than ever before, antimicrobial stewardship is of the utmost importance as a way to optimize the use of antimicrobials to prevent the development of resistance and improve patient outcomes [4] Medication errors are any failure in the treatment process that leads to or has the potential to lead to harm to the patient and include mistakes of prescribing, administering, dosing, and duplication. Prescription errors are any failure in prescription writing process that results in wrong instructions about the normal features of a prescription. These features include the identities of the recipient, the prescriber and that of the medicine, dosage, formulation, route, timing, frequency, and duration of administration.[5] Prescribing errors have been reported in all age groups across the world, raising concerns on medication safety, especially among vulnerable groups. Children are more at risk of the adverse effects of medication errors due to unique peculiarities of body size, surface area, drug metabolism, and excretion [6] An Antimicrobial Stewardship Program (ASP) is an approach that can be used to improve the antimicrobial prescribing and control antimicrobial resistance. The principal aim of ASP is to improve efficacy, minimize adverse effects and unintended consequences of antimicrobial use and

limit the spread of antimicrobial resistance.[7] Antibiotic Stewardship Program is an activity that includes appropriate selection, dosing, and duration of antimicrobial therapy that is giving right drug at right time, in right dosage and right route. A secondary goal of antimicrobial stewardship is to reduce healthcare cost without adversely impacting the quality of care. It is widely accepted that there is a direct correlation between the use of antibiotics and development of antimicrobial resistance.[8] Antimicrobial decision making in intensive care unit is (ICU) more challenging. The prevalence of Antimicrobial resistant pathogens is higher in intensive care units. Whereas antimicrobial resistance may affect any patient in the hospital, patients in ICU are particularly at risk of acquiring antimicrobial resistant infections due to intensity of the treatment, use of invasive devices, increased risk of transmission and exposure to antibiotics. AMR is present in every ICU, although prevalence is geographically different and AMR pathogens encountered are variable.[9]

Optimal antimicrobial use is crucial in critical care setting, especially in the era of rising antibiotic resistance and lack of new antimicrobial development. In ICU antibiotic stewardship encompasses rapid identification of patients with bacterial infections, better empirical treatment selection, using pharmacokinetic and pharmacodynamic characteristics to optimize antibiotic dosing and administration modalities, de-escalation once cultures results are obtained, shortening therapy duration and reducing the number of patients treated unnecessarily.[10] However, inappropriate discontinuation or narrowing of antibiotic treatment could increase the infection related mortality in the population.[11] Physician and Pediatrician need to strike the balance between overconservative and irrational use of Antimicrobials. Hence this study is planned in order to see the impact of Antimicrobial Stewardship Programme implementation on this rising antimicrobial resistance. This study aims to see the impact of

Antimicrobial Stewardship on the prescription pattern of antimicrobials in PICU of a tertiary care hospital.

AIMS AND OBJECTIVES

- To compare the antimicrobial prescription practices in admitted children to hospital before and after applying Antimicrobial Stewardship Programme.
- To study the factors hindering implementation of Antimicrobial Stewardship leading to non-compliance to protocolized antimicrobial policy.

REVIEW OF LITERATURE

The term antibiotic was coined from the word “antibiosis” which literally means “against life”[12] Antibiotics are also known as antimicrobial drugs, are powerful drugs to fight against bacteria. The first antibiotic was penicillin which was discovered accidentally by Alexander Fleming, a Scottish physician born on 6 August, 1981, from mould culture. In 1928, Fleming began a series of experiments involving the common staphylococcal bacteria. He found that it was not the mould itself but some ‘juice’ it had produced that had killed the bacteria. He named this ‘mould juice’ penicillin.[13]

The discovery and development of the first significant antibiotic “penicillin” in 1920’s, and subsequent introduction into man’s health care system in 1940’s has continued to transform the management and fight against bacterial infections. [14]

The problem of antibiotic resistance is increasingly globally. In Taiwan, For Example, the excessive use of antimicrobials is very prevalent [15] and the rate of antibiotic resistance is one of the highest in the world.[16-19]

Figure 1: Mechanism of development of resistance to antibiotics[20]

Antibiotic class	Resistance type	Resistance mechanism	Common example
Aminoglycoside	Decreased uptake	Changes in outer membrane	*P aeruginosa*
	Enzymatic modification	AGE's	Gram-negative bacteria
Beta-lactams	Altered PBP	PBP 2a	Mec A in *S. aureus*, CONS, *S. pneumoniae*
	Enzymatic degradation	Penicillinase which are classified as per ambler classification	Gram-negative bacteria
Glycopeptides	Altered target	D-alanyl-alanine is changed to D-alanyl-D-lactate	Vancomycin resistance in *E. faecium* and *E. faecalis*
Macrolides	Altered target	Methylation of ribosomal active site with reduced binding	erm-encoded methylases in *S. aureus*, *S. pneumoniae*, and *S. pyogenes*
	Efflux pumps	Mef type pump	*S. pneumoniae* and *S. pyogenes*
Oxazolidinones	Altered target	Mutation leading to reduced binding to active site	*E. faecium* and *S. aureus*
Quinolones	Altered target	Mutation leading to reduced binding to active site(s)	Mutations in gyr A in enteric Gram-negative bacteria and *S. aureus*
	Efflux	Membrane transporters	Mutations in gyr A and par C in *S. pneumoniae*. Nor-A in *S. aureus*
Tetracyclines	Efflux	New membrane transporters	tet genes encoding efflux proteins in Gram-positive and Gram-negative bacteria
	Altered target	Production of proteins that bind to the ribosome and alter the conformation of the active site	tet (M) and tet (O) in Gram-positive and Gram-negative bacteria species
Chloramphenicol	Antibiotic inactivation	Chloramphenicol acetyl transfecase	CAT in *S. pneumonia*
	Efflux pump	New membrane transporters	cml A gene and flo gene efflux in *E. coli*
Sulfa drugs	Altered target	Mutation of genes encoding DHPS	*E. coli*, *S. aureus*, *S. pneumoniae*

DHPS=Dihydropteroate synthase, *P. aeruginosa*=*Pseudomonas aeruginosa*, *S. aureus*=*Staphylococcus aureus*, *S. pneumoniae*=*Streptococcus pneumoniae*, *E. faecium*=*Enterococcus faecium*, *E. faecalis*=*Enterococcus faecalis*, *S. pyogenes*=*Streptococcus pyogenes*, *E. coli*=*Escherichia coli*, PBP=Penicillin binding protein, AGE's=Aminoglycoside modifying enzyme, CAT=Chloramphenicol acetyl transferases

Metjain et al (2008) conducted a prospective observational study to describe the use and impact of a pediatric ASP. During the 4-month study period, calls were placed to the ASP for 652 patients out of which 45% calls required an intervention by the ASP including targeting the known or suspected pathogens (20%), consultation (43%), optimize antimicrobial treatment (33%), and stop antimicrobial treatment (4%). It was concluded that ASP improves the appropriateness of antimicrobial use in hospitalized children.[21]

Schulz et al (2012) in a review found that the antibiogram is neither designed nor well suited to reflect changes in hospital antimicrobial drug use and it bears an inconsistent relationship with changes in hospital antibiotic use and cannot be recommended to reliably evaluate an ASP intervention.[22]

Antibiotics are among the drugs most commonly prescribed to children in hospital and community settings. It has been reported that the average proportion of children in hospital settings who receive at least one antibiotic is between 33 % and 78 %. Moreover, antibiotics are prescribed during approximately 20 % of paediatric ambulatory visits.[23]

Unfortunately, a great number of these antibiotic prescriptions are unnecessary or inappropriate. Frequently, antibiotics are administered to children who suffer from viral infections or from non-infectious diseases. In other cases, broad-spectrum antibiotics are given to children who suffer from infections for which narrow-spectrum drugs are indicated and recommended. Finally, many children receive antibiotic prescriptions indicating an incorrect total daily dosage or fractioning or for a period of time significantly longer than needed.[24]

Antibiotic abuse and misuse have several negative consequences. The incidence of drug-related adverse events is significantly increased in

instances of improper antibiotic use. Moreover, the emergence of multidrug resistant bacterial pathogens is heavily favoured in such instances, leading to longer hospital stays, increased patient mortality and increased healthcare costs. Other important problems related to antibiotic abuse and misuse are represented by the increasing incidence in *Clostridium difficile* infection and the negative impact on microbiota. Inappropriate dosage may also be associated with undertreatment risks.[25,26]

For several years, AS efforts were focused on adult populations. A very successful and evidence based AS program in adults was the Transatlantic Taskforce on Antimicrobial Resistance(TATFAR), established by American President Barack Obama and President of the European Union (EU) Fredrik Reinfeldt from Sweden (Transatlantic Taskforce on Antimicrobial Resistance, 2014). Recommendations fell into three broad categories: urgent antimicrobial resistance issues focused on appropriate therapeutic use of antimicrobial drugs in the medical and veterinary communities, prevention of both healthcare and community-associated drug-resistant infections, and strategies for improving the pipeline of new antimicrobial drugs.[27]

The need for formal AS programs in paediatrics was officially recognized only recently, considering the widespread use of antibiotics in children and the different antimicrobial resistance patterns that these subjects exhibit in comparison to adult and elderly patients. From a theoretical point of view, to be maximally effective in rationing antibiotic prescriptions, AS strategies and protocols must account for several elements strictly related to the antibiotic prescription but should also consider the need for continuous access to expertise in clinical pharmacology and infectious diseases and for transparent monitoring of antibiotic use. Practically, two main core strategies are utilized, which are a prospective audit with feedback and a prior approval strategy. In the first strategy, reviews of prescriptions with

feedback on antibiotics used are performed after the antibiotics have been prescribed. In the second, reviews and approvals of antibiotic prescriptions are made prior to the initiation of therapy.[28]

In the United States, the Infectious Disease Society of America (IDSA) published guidelines for developing an institutional program to enhance AS and identified paediatrics as a priority area for further research regarding the effectiveness of AS activities.[24] Later, the Pediatric Infectious Diseases Society in 2010 (Society for Healthcare Epidemiology of America, 2012) and the American Academy of Pediatrics in 2012 both highlighted the importance of AS in paediatrics; these organizations promoted research, developed educational programs, and recommended implementation of AS programs in health care organizations that provide inpatients and outpatients with paediatric care. After these recommendations, the number of hospitals in which AS programs have been developed and tested significantly grew. In a study recently carried out in the United States, it was found that 31 out of 42 children's hospitals that are members of the Children's Hospital Association had a formal AS program or were in the process of implementing a program. Moreover, some attempts to introduce AS in ambulatory setting have been made.[29,30]

Additional possibilities to supplement core strategies or to improve antibiotic prescribing methods include education of providers, guidelines, streamlining/de-escalation therapy, intravenous-oral conversion, dose optimization, and use of antimicrobial order forms. Educational programs are particularly important. They should provide adequate information about the rules for the identification of patients for whom antibiotics are necessary, the optimal timing of drug administration and the most appropriate antibiotic regimen with the time of de-escalation or discontinuation specified.[31]

Goldman et al (2015) retrospectively studied antibiotic prescriptions made over 5 years in a paediatric hospital in the United States and found that community-acquired pneumonia and ear/nose/throat infections were the diagnoses with the highest predictive probability of warranting an AS program recommendation, whereas fever/neutropenia diagnoses had the lowest probability. Though single strategies can be effective, the best results with the highest reduction in antibiotic misuse are usually obtained when combined instead of single-strategy approaches are used.[32]

With regards to the problem of selection of the appropriate antibiotic regimen for each child, it must be considered that for many paediatric infectious diseases, one of a limited number of bacterial pathogens is usually the etiologic cause and that, lacking direct microbiological evidence, the antibiotic of choice to treat each disease is the one active against the most probable infectious agent. To solve the problem of the delay with which culture results indicate the etiology of a given disease, the use of rapid diagnostic tests must be considered. Moreover, a thorough understanding of the local rates of resistance to different pathogens is essential, and an automated update of empiric antimicrobial prescription guidelines must be planned.[33]

Development of local AS teams including experts from different fields is considered essential to ensure adequate development of AS programs and continuously updated information useful for avoiding antibiotic misuse and abuse. Infectious disease, pharmacy, microbiology, infection control, and information technology specialists need to be involved and offer support and continuous medical education to paediatricians regarding the prescription of antibiotics. The hospital administration and medical staff leadership must also contribute, even with financial support, to the application of AS programs.[34]

Implementation of paediatric AS programs is easier in the hospital setting, where technical and human resources are more plentiful and easily

available than in the community. Hyun et al. have listed potential strategies to promote AS programs in community-based settings, highlighting the need for identification of local physician champions and potential resources (i.e., pharmacy records, infection control practitioners, pharmacists, microbiologists, microbiology results, information technology) as well as the great difficulties in developing common guidelines for antibiotic use and control.[35]

Several evaluations of paediatric AS programs have shown favourable outcomes, including a reduction in antibiotic prescriptions and lower costs (Table-1). Most of these evaluations were performed in hospitals, probably due to the difficulties in performing AS outside this setting. Among the studies concerning hospitalized children, those by Agwu et al (2008)[36], Metjian et al (2008) [21] and Di Pentima et al (2011) [37] deserve attention.

Table 1: Main studies on the impact of antimicrobial stewardship programs in paediatric settings

Author and year of publication	Site of evaluation	Strategy	Type of control	Main results
Agwu et al (2008)[36]	Single hospital	World Wide Web-based antimicrobial restriction program, automated clinical decision support, facilitated approval, enhanced real-time communication among	Before and after implementation of the program, evaluation of user satisfaction, reports of missed and/or delayed doses, antimicrobial dispensing times and costs	Satisfaction increased from 22–68 % and from 13–69 % among prescribers and pharmacists, respectively. Reductions of 21 % and 32 % in the number of missed and

Author and year of publication	Site of evaluation	Strategy	Type of control	Main results
		prescribers, pharmacists, and paediatric infectious disease fellows		delayed antimicrobial doses, respectively $370,069 reduction in projected annual costs
Metjian et al (2008)[21]	Single hospital	Evaluation of outcomes and compliance resulting from empirical antibiotic therapy decisions	Intervention to modify antibiotic therapy	45 % of prescriptions required an intervention.
Di Pentima et al (2011)[37]	Single hospital	Antimicrobial use indications were included as a mandatory field in the computerized information system	Prescriptions were reviewed by specialists	Reduction in antimicrobials of more than 30 % for both targeted and nontargeted drugs
Hersh et al (2015)[38]	Nine hospitals	Antimicrobial consumption after introduction of an antimicrobial stewardship program defined as a program able to continuously	Evaluation of days of therapy per 1,000 patient-days	Decline in average antibiotic use in hospitals with antimicrobial stewardship program of 11 % vs 8 % in those without the

Author and year of publication	Site of evaluation	Strategy	Type of control	Main results
		monitor use with the support of a dedicated team in some hospitals		program
Filkelstein et al (2008)[39]	The community (16 non-overlapping communities)	Guideline dissemination, small-group education, frequent updates, education material for paediatricians and parents	Consumption of antibiotics	The intervention had no effect among children aged 3–23 months but was associated with a 4 % and 7 % decrease in antibiotic prescriptions in those aged 24–47 months and 48–71 months, respectively.
Gerber et al (2013)[40]	The community (162 clinicians)	One 1-h on-site education session followed by one year of personalized quarterly audits and feedback on prescriptions for respiratory	Consumption of antibiotics	Broad spectrum antibiotic prescriptions decreased from 27 % to 14 % among intervention practices and from 28 % to 23 % in

Author and year of publication	Site of evaluation	Strategy	Type of control	Main results
		infections or usual practice in a group of enrolled individuals		controls. Off-guideline prescriptions decreased from 16 % to 4 % among intervention practices compared with a decrease from 17 % to 16 % in controls.

Agwu et al (2008)[36] evaluated a World Wide Web-based antimicrobial restriction program at a 175-bed, tertiary care paediatric teaching hospital. The program provided automated clinical decision support, facilitated approval, and enhanced real-time communication among prescribers, pharmacists, and paediatric infectious disease fellows. After implementation of the program, there was a $370,069 reduction in projected annual costs associated with restricted antimicrobial use and an 11.6 % reduction in the number of dispensed doses. User satisfaction increased from 22–68 % and from 13–69 % among prescribers and pharmacists, respectively. There were 21 % and 32 % reductions in the number of prescriber reports of missed and delayed doses, respectively, and there was a 37 % reduction in the number of pharmacist reports of delayed approvals.

Despite a growing evidence base supporting the value of paediatric AS programs, a number of well-recognized barriers hinder their development and growth. A lack of knowledge regarding the fundamental rules on

which antibiotic prescriptions are based remains one of the most important problems in the implementation of AS programs. A recent study by Bowes et al. highlighted several challenges that paediatric practitioners face with respect to the knowledge of and approaches to prescribing antimicrobials. In particular, these authors reported that the majority of physicians included in a survey they carried out in a Canadian teaching hospital did not receive any formal education regarding the prescribing of antimicrobials and antimicrobial stewardship in the previous year. Moreover, both the trainees and the staff had modest knowledge of factors that would increase the risk of resistance, and less than 20 % of them had correct knowledge of local resistance patterns for common bacteria.[41]

All of these findings provide evidence that educational programs specifically devoted to illustrate the rules for rational use of antibiotics are needed before and during AS program implementation. Guidelines and protocols can be useful in this regard, but to be most effective, these should be shared between all specialists directly or indirectly involved in the prescription of antibiotics, including pharmacists, microbiologists, and infectious disease specialists. Shared suggestions for antibiotic administration can permit a facility to overcome the risk of any new intervention being perceived by front-line physicians as interfering with their routine practice and being questioned. Unfortunately, creation of a team specifically dedicated to educate providers and monitor antibiotic use to correct possible mistakes is not always possible because it requires substantial financial support. A lack of funds can cause difficulties in the implementation of an AS program. Additionally, a lack of technical resources may further limit the implementation and effectiveness of AS programs. Daily surveillance of antibiotic prescriptions and control of the concordance between actual and suggested uses, including evaluations of dosing and length of administration, are largely facilitated by the availability of computerized programs. Availability of hardware and software needed for monitoring first requires financial support and

administrative consensus, which is not easily obtained, even though cost saving is routinely achieved by reducing unnecessary antibiotic use and decreases in the pharmacy budget usually cover the expenses for AS program implementation within a few months.[42]

A study conducted by Indian Network for Surveillance of Antimicrobial Resistance (INSAR) group has reported prevalence of 41% methicillin-resistant *Staphylococcus aureus* (MRSA) in India. Multiresistant entero-bacteriaceae due to the production of extended spectrum *b*-lactamases (ESBL) has also become rampant in India. Other resistance patterns prevailing in India include multidrug-resistant extended spectrum *b*-lactamase producing *Klebsiella pneumoniae*, ciprofloxacin-resistant *Salmonella* enteric serovar Typhi, vancomycin-intermediate staphylococci, fluoro-quinolone-resistant *Salmonella* enteric serovar Paratyphi A, and ceftazidime-cefepime and ciprofloxacin resistant *Pseudomonas aeruginosa* and *Acinetobacter baumanni*.[43]

Prevalence of Metallo-beta-lactamase producing organisms ranges from 7-65% in India. Sale of antibiotics in India is on the rise with 40-60% increase observed over last five years. Studies conducted in Delhi and Vellore have shown high consumption of fluoroquinolones.[44,45]

The rising resistance has lead to longer hospital stay, increased health care cost, increased antibiotic-related adverse effects, and overall high morbidity and mortality. Some important factors responsible for the rising antibiotic resistance in India are indiscriminate use of antibiotics, over-the-counter availability of antibiotics, laxity of regulatory bodies in approval of antibiotics, lack of public awareness about antibiotic resistance, injudicious use in veterinary practice, overburdened health infrastructure, and inequity in healthcare.[46]

Consumption of antibiotics is very high in pediatric population. More than 60% of child patients receive at least one antibiotic during their

hospitalization; and more than 90% children receive antimicrobials if they are undergoing surgery, having central venous catheter, having prolonged ventilation, or are in the hospital for >14 days.[47]

Repeated antimicrobial use is most common in children being treated for cancers, those having undergone transplants, and those with immunosuppressive conditions like cystic fibrosis. Increased or repeated use of antibiotics is often associated with adverse drug events, especially due to dosing errors. Antimicrobial-associated diarrhea caused by *C. difficile* infection has increased over the last few years.[48]

Neonates are especially vulnerable since they receive broad spectrum antimicrobials much more frequently than older children. Moreover, they are more prone to early upgradation of antimicrobials due to high risk of morbidity and mortality. Neonates also have maximum risk of antimicrobial associated severe adverse effects, including necrotizing enterocolitis, invasive candidiasis, increased hospital stay, and bacterial resistance. The risk of necrotizing enterocolitis (NEC) increases by 4% with each added day of hospitalization after 5 days. Invasive candidiasis in neonates on broad spectrum antimicrobials has shown an increase from 2.4% to 20.4%.[49]

With the recognition of the various challenges noted with antibiotic use in pediatric and neonatal population, Pediatric Infectious Disease Society (PIDS) in 2010 formed the Pediatric Committee of Antimicrobial Stewardship with the mission of advancing pediatric antimicrobial stewardship in various clinical settings, promoting research, and developing antimicrobial stewardship educational programs. The American Academy of Pediatrics also recommends implementation of ASP.[50]

Standard guidelines on what to do and what not to do have been developed by the WHO to minimize selection of resistant organisms, and maximize better outcomes (World Health Organization, 2013). These are reproduced in Box 2 and 3.[51]

Box 2 What Needs to be Done?[51]

• Appropriate empirical antimicrobial therapy, with right dose, for right duration and at right time.

– Delayed therapy or modifying the initial antimicrobial therapy does not improve the outcome.

– Multidrug-resistance organism predisposes for inappropriate therapy.

• Early and accurate identification of the pathogen and susceptibility.

• Combination or monotherapy chosen on the basis of the pathogen identified.

• De-escalation of initial broad spectrum therapy after definitive diagnosis (generally based on microbiology reports).

Box 3 What Should Not be Done? [51]

• Treat non-infectious or nonbacterial syndrome

• Treat colonization or contamination

• Treat longer than necessary

• Fail to make adjustment in a timely manner

• Prescribe antibiotic with spectrum of activity not indicated

With the available data, the situation is not too promising. The first global survey conducted by Howard et al (2015) reported 53% coverage in Asia. The common barriers reported include: lack of funding and human resource, lack of information technology, higher priorities, lack of awareness of administration, and prescriber opposition.[52]

The first major step towards curtailing the rising antibiotic resistance was taken in 2009 with the launch of Global Antibiotic Resistance Partnership (Global Antibiotic Resistance Partnership (GARP), 2011). It was started to create a platform for developing actionable policy proposals on antibiotic resistance in low- and middle-income countries. India, Kenya, South Africa and Vietnam in 2011, in a multidisciplinary approach, made multiple recommendations so as to implement it at a priority stage and second-tier stage. Priority stage recommendations included surveillance on antibiotic resistance and use, increasing use of diagnostic tests, strengthening infection control committee, in-service training for physicians, continuing education for pharmacist, distributing Standard Treatment Guidelines (STGs) to the hospital staff, and regulate veterinary use. The *second tier recommendations* were to regulate over the counter sale, prioritize funding for research, issue guidelines and checklists, and study impact of seasonal influenza vaccine on pregnant females.[53]

The National Policy for Containment of Antimicrobial Resistance has created a task force to review the current situation regarding manufacture, use and misuse of antibiotics in the country; to recommend the design for creation of a national surveillance system for antibiotic resistance; to initiate studies documenting prescriptions patterns and establish a monitoring system for the same; to enforce and enhance regulatory provisions for use of antibiotics in human and veterinary and industrial use; to recommend specific intervention measures such as rational use of antibiotics and antibiotic policies in hospitals; and to review the diagnostic methods pertaining to antimicrobial resistance monitoring.[54]

Umar et al (2018) evaluated the prescribing pattern and utilization of antibiotics for children using standard prescribing indicators and indices of rational drug prescribing. The study was a retrospective study of prescriptions for pediatric inpatients at a teaching hospital in Northern Nigeria. Information was obtained from eligible prescriptions received over

24-month period using a modified WHO prescribing indicator form. The WHO prescribing indicators and the Index of Rational Drug Prescribing (IRDP) were used to evaluate prescriptions. Data were analyzed and presented as proportions, means, tables, and charts, comparing with WHO standards and with findings of similar studies. There were 3908 eligible prescription orders, with a mean patient age of 3.1 (±2.7) years. With an average of 2.1 drugs per prescription, 66.8% were written with generic names, whereas a single antibiotic was included among 63% of prescriptions with antibiotics. Antibiotics and injections were contained in 49.5% and 67.7% of prescriptions, respectively. Medications were available in the Essential Medicines List in 95.5% of cases. The IRDP obtained is 2.99, against a standard of 5. Aminoglycosides, cephalosporins, and penicillins were the most common choices, whereas ampicillin/cloxacillin was the most common combination.[55]

Shiva et al (2018) determined the pattern of antibiotic usage in previously healthy children hospitalized for common infectious diseases in a tertiary care children's hospital. The study was the second part of a previous study in which inpatient charts of children hospitalized from October 2013 to September 2014 were reviewed to determine the rationality of drug use. Data from the first study were analyzed to define the antibiotic usage pattern in urinary tract infection, acute meningitis, community acquired pneumonia, fever without a localized source and acute gastro-enteritis. The data were checked independently by two pediatric infectious disease specialists to assess the appropriateness of prescribed antibiotics and in case of disagreement, rechecked by a third member. Hospital charts of 140 children were reviewed; 47 had been treated for urinary tract infection, 31 for pneumonia, 25 for acute meningitis, 24 for acute gastroenteritis and 13 for fever without a localized source. One-hundred and fourteen children (81.42%) received 208 prescriptions for antibiotics (1.82 antibiotics/ patient). Nineteen different antibacterial drugs and 2 antivirals (acyclovir and oseltamivir) were prescribed. Most frequently prescribed antibiotic

was ceftriaxone. More than 25% of prescriptions for antibiotics were needless. In 91.6% of the prescriptions the medications had been prescribed by generic names. Dosing errors were observed in less than 7% and patients received the medication for prolonged duration, 25.6% of times.[56]

Paul et al (2018) evaluated the prescription pattern of antibiotics in pediatric outpatients at private hospitals in Rajshahi city of Bangladesh. WHO / INRUD prescribing indicators were used for the analysis of prescription pattern. A total of 329 pediatric prescriptions were analyzed of which 54% male and 46% female. Most of the patients (48%) belongs to the age group of 1 year - 6 years. Body weight was not mentioned in 17% of prescr-iptions, diagnosis was confirmed only in 11% patients and also 11% of children did not take or completed immunization. Among the children born 83% were of caesarian and 17% of normal delivery. The results also indicated that 964 drugs were used by the patients with an average 2.93 per prescription. However, none of the drugs was prescribed in generic name. Interestingly, only 37.24% drugs were prescribed from the national essential drug list. Children were mainly suffering from fever and common cold 50% and pneumonia 12%. In this study, the percentage of prescriptions with antibiotics were 83% of which major classes were cephalosporin 45.27%, *β*-lactam antibiotics 22.97%, macrolides 18.92% and quinolones 9.46%. Analgesics 16%, vitamins 8%, drugs for acid related disorders 2% and mineral supplements 2% were also prescribed. Cost of antibiotic per prescription was 299.38 taka.[57]

Rahbarimanesh et al (2019) evaluated the efficacy of ASP and conventional methods was compared to measure the effectiveness of meropenem (MPM) and vancomycin (VMN) antibiotics in pediatric patients. In an interventional quasi-experimental study, 135 children admitted in Children's Hospital affiliated to University of Medical Sciences in time periods of 2014–2015 and 2015–2016 were assessed. The

conventional and ASP methods in 2014–2015 and 2015–2016 were respectively utilized to provide the best antimicrobial therapy of MPM and VMN antibiotics in patient children. The data of mortality rate (MR), antibiotic prescription (AP), antibiotic dose (ADe), antibiotic duration (ADn), length of hospital stay (LOHS), and blood cultures (BCs) were compared across the years. The levels of MR, AP, Ade, And, LOHS, and positive BCs using the ASP method in 2015–2016 were significantly lower those of in 2014–2015 using the conventional one ($p<0.05$).[58]

Kinoshita et al (2019) evaluated antimicrobial use in children in Japan by observing prescription patterns as an interim assessment of the national AMR action plan. Using the national health claims database, we retrospectively analyzed all oral antimicrobials dispensed from outpatient pharmacies in Japan to children under 15 years old from 2013 to 2016 by age, prefecture, type of antimicrobial, and year. Data were presented as days of therapy (DOTs) per 1000 pediatric inhabitants per day (DOTs/PID). A total of 721,627,553 oral antimicrobial DOTs were identified during 2013 to 2016. No statistically significant changes were observed in total antimicrobial use in children (2013: 28.54 DOTs/PID; 2016: 28.70 DOTs/PID; P_{trend} = 0.25) and amount of cephalosporins, macrolides, and quinolones prescribed. Prescription rates of all antimicrobials were highest among children 1-5 years old, peaking at 1 year old. Targeted antimicrobials for the AMR action plan showed similar distribution by age.[59]

Joshi et al (2020) studied the prescribing patterns of cephalosporins in children following the implementation of Antibiotic Stewardship Program (ASP) in a tertiary care hospital at western India. The study was an observational study of records using data of pre- and post-implementation of ASP. Data were collected from case files of children admitted to pediatric wards in the years 2012 and 2014. Three hundred case files were collected and analyzed (n=150 each from the year 2012 and 2014).

The mean age of patients in both years was 6.21 years±5.63 (the year 2012) and 5.88 years±5.88 in (the year 2014). Majority of children, that is, 47.3% were suffering from infectious diseases in the year 2012 while in the year 2014, 38.7% suffered from infectious diseases. Post-implementation of ASP, there was an improvement in the appropriateness of cephalosporin prescribing in terms of prophylactic and empirical treatments. Switch over of parenteral cephalosporins to oral was observed in 54.0% patients in 2012, while in 2014, it was seen in 51.3% of patients. There was a 4.6% rise in prescriptions containing 1st generation cephalosporins. Overall, there was a significant impact of ASP in terms of appropriate cephalosporin prescribing (p=0.039).[60]

Mustafa et al (2020) reviewed stewardship adherence in the Department of Pediatrics at the Central Hospital, Pretoria, South Africa. Antibiotic prescriptions of children admitted to hospital were reviewed for consistency with the national essential medicines list from January 2017 to January 2019. Medical records of children were reviewed to obtain the primary diagnosis, requested laboratory investigations and antibiotic prescription practices. The management was adjudicated as consistent with policy by a score system. The study revealed that management was in agreement with standard guidelines in 69.3 % of cases with ranges from 33% to 77%. Since the start of the study in January 2017 to the final date in January 2019, there was a significant increase in the number of patients with respiratory tract infections who were treated correctly, increasing from 41% to 73% at study end.[61]

Hammour et al (2020) assessed antimicrobial consumption and resistance in a Jordan teaching hospital as part of the Global-PPS network. Detailed antimicrobial prescription data were collected according to the Global Point Prevalence Survey protocol. The internet-based survey included all inpatients present at 8:00 am on a specific day in June–July 2018. Resistance data were based on microbiological results available on the

day of the PPS. Data were collected for 380 patients admitted to adult wards, 72 admitted children, and 36 admitted neonates. The overall prevalence of antimicrobial use in adult, paediatric, and neonatal wards was 45.3%, 30.6%, and 22.2% respectively. Overall, 36 patients (7.4%) were treated for at least one healthcare-associated infection (HAI). The most frequent reason for antimicrobial treatment was pneumonia. Cephalosporins and carbapenems were most frequent prescribed among adult (50.6%) and paediatric/neonatal wards (39.6%). Overall resistance rates among patients treated for a community or healthcare-associated infection was high (26.0%). Analysis of antibiotic quality indicators by activity revealed good adherence to treatment guidelines but poor documentation of the reason for prescription and a stop/review date in the notes.[62]

Mgbahurike et al (2020) assessed the utilization pattern of antibiotics in the pediatrics unit of University of Port Harcourt Teaching Hospital. A retrospective cross sectional study of inpatient and outpatients in the unit who were diagnosed with one or more infection that required the use of at least one antibiotic, between January 2018 and June 2019, was conducted. A total of 249 cases were reviewed. Data extracted from the patients' folders include demographic information; antibiotic prescribed; indication for which the antibiotic was prescribed; dosage forms; route of administration; and number of antibiotics per prescription. There were more male, 137(55%) patients than the female. The highest, 83(33%) number of these children were less than 12months (1year) old, and the least number, 21(9%), were 12years to 18years old. Overall children below 5 years 153(61.4%) received more antibiotics than the 5 years and above. Upper respiratory tract infection (n=80) was the most frequently diagnosed infection while bronchopneumonia ranked fourth. Cephalosporin class n=142(57%) of antibiotics particularly cefuroxime was the most commonly prescribed followed by the penicillin with Amoxicillin – Clauvulanic acid, n=56(22%) being the most used. Oral route of

administration (86.3%) was mostly employed with suspension dosage form (53%) the highest. Level of parenteral route was 11.6%.[63]

MATERIAL & METHODS

SOURCE OF DATA: The study was conducted on patients between the age of 1 month to 18 years admitted in PICU of Dayanand Medical College & Hospital, Ludhiana for a period of 11 months (wef 1st March 2020 to 31st Jan 2021) ,who were prescribed antimicrobials at admission or subsequently. Our hospital is a tertiary care hospital which has 10 beds in PICU.

METHOD OF COLLECTION OF DATA: Details related to Antimicrobial prescription practices in patients admitted in our PICU were recorded on a pre-structured proforma.

STUDY DESIGN: Prospective observational study before and after implementation of Antimicrobial Stewardship Programme.

STUDY PERIOD:

4 months - Pre-implementation (Phase1)

5 months - Implementation of Antimicrobial Stewardship Programme (Phase 2)

2 months – Post-implementation (Phase 3) (Was done in lesser time due to less patients in PICU due to COVID-19 pandemic)

PHASE 1: During first 4 months of the study period, no new changes were made to the existing practice of antimicrobial prescription. All patients admitted in PICU were screened daily and those who were on antibiotics were included in the study. During this phase the information regarding demographic profile of patients, laboratory investigation reports, antibiotics given and their route of administration, indication, dosage and duration were recorded in standardized proforma. The appropriateness of choice of initial antibiotic and upgradation of antibiotics was noted.

PHASE 2: The Antimicrobial Stewardship Programme was implemented in form of education of the doctors in PICU. The treating doctors were educated regarding the various pathogens responsible for different clinical conditions in the community and, accordingly the rational antibiotics to be selected. Injudicious use of Antimicrobials was strongly discouraged. Common clinical infections responsible for HAI in PICU (VAP, CAUTI, CLABSI); their specific pathogens and rational antimicrobial prescription for the same was taught.

PHASE 3: The effect of teaching and implementation of ASP was noted in the form of prescription pattern of antimicrobials. As in phase1, the same information regarding demographic profile of patients, laboratory investigation reports, antibiotics given and their route of administration, indication, dosage and duration was recorded in standardized proforma after the implementation.

Antimicrobial Stewardship Programme Implemented: As per guidelines adapted from IAP Specialty Series on Rational Antimicrobial Practice in Pediatrics (Third Edition)[64]

TABLE 2: COMMUNITY ACQUIRED PNEUMONIA: [64]

FIRST LINE	**<5 Years (Pneumococcus, H. Influenzae type B and Viruses)** : Inj. Cefuroxime (100-150 mg/kg/day) 8 hourly I/V Inj Amoxicillin-Clavulinic acid (100mg/kg/day of Amoxicillin base IV TID +/- Inj. Ceftriaxone (100mg/kg/day) BID **>5 Years (Pneumonia and Mycoplasma) :** Inj Amoxicillin-Clavulinic acid (100mg/kg/day of Amoxicillin base IV TID +/- Inj. Ceftriaxone (100mg/kg/day) BID With or without Macrolide	Duration: 7-10 days
ALTERNATIVE	**If Staphylococcal infection suspected, MRSA :** Add Vancomycin(40-60mg/kg/day)QID / Inj Linezolid (30mg/kg/day) TID for < 12 year	Duration: 7-10 days

	(20mg/kg/day) BID for > 12 year or Inj Teicoplanin **Suspected Gram Negative pathogen :** Ceftazidime or Piperacillin + Tazobactam with or without Aminoglycoside **Suspected Influenzae** : Add Oseltamivir	

TABLE 3: ACUTE BACTERIAL MENINGITIS: [64]

AGE	**COMMON BACTERIAL PATHOGENS**	**ANTIMICROBIAL THERAPY**
Children	S. pneumoniae, N. meningitidis, H. influenzae.	Vancomycin + Ceftriaxone/ Cefotaxime.
Nosocomial/ device associated	S. aureus, CONS, MDR/XDR gram negative pathogens.	Meropenem+ Vancomycin

TABLE 4: ENTERIC FEVER: [64]

FIRST LINE Ceftriaxone	50-100 mg/kg/day in 2 divided doses.
SECOND LINE Azithromycin	10-20 mg/kg /day once a day PO for 1-5 days.

TABLE 5: URINARY TRACT INFECTIONS: [64]

For inpatient therapy, low likelihood of drug resistant pathogens	IV Cefotaxime/ Ceftriaxone / Amoxicillin-Clavulinic acid
For inpatient therapy, High risk of resistant pathogens , very sick patients, non-responsive to first line	Beta-lactam Beta –lactamase inhibitors combinations (Cefoperazone – Sulbactam / Piperacillin- Tazobactam) or Carbapenems (Imipenem/ Meropenem)

TABLE 6: EMPIRIC REGIMEN FOR SEVERE SEPSIS/SEPSIS SHOCK:

Community acquired infections with normal immune status: [64]

Type of setting	Likely pathogen	Choice of drug	
No clinical focus	• Streptococcus pneumonia • E. Coli • Klebsiella pneumoniae	Ceftriaxone+ Aminoglycoside	Add Doxycycline in Rickettsia endemic area Artesunate if Malaria is possibility.
Respiratory focus	• Streptococcus pneumonia • Staph aureus • Mycoplasma • Viruses	Co-amoxiclav Ceftriaxone	Add Macrolide in children > 5 year age , suspecting Mycoplasma Add anti MRSA cover if features of staphylococcal infection
Genitourinary source	• E. Coli • Klebsiella pneumoniae	Ceftriaxone+ Aminoglycoside	
Intra-abdominal source	• E. Coli • Anaerobes	Beta-lactam Beta – lactamase inhibitors combinations (Cefoperazone – sulbactam / piperacillin-tazobactam	
Skin and soft tissue infection	• Staphylococcus pyogenes • Staphylococcus aureus	Ceftriaxone+ Clindamicin	Add anti MRSA cover if purulent secretion
Bone and Joint	• Staphylococcus aureus • MRSA	Vancomycin	

TABLE 7: HEALTHCARE ASSOCIATED INFECTIONS: (HAI) [64]

Suspected site	Likely organism	Stable patient/ no prior antibiotic exposure	Patient in septic shock / already received first line agents
Blood stream infection	Klebsiella pneumoniae, E. coli, Pseudomonas, Acinetobacter	Piperacillin-Tazobactam/ Cefoperazone-sulbactam/ Meropenem/ Imipenem/ with or without Amikacin	Colistin/ Polymixin –B with Meropenem/ Imipenem with or without high dose Tigecycline with or without Fluconazole
Ventilator associated pneumonia	Acinetobacter, Pseudomonas, Klebsiella pneumoniae, E. coli	Piperacillin-Tazobactam/ Cefoperazone-sulbactam/ Meropenem/ Imipenem	Colistin/ Polymixin –B with Tigecycline
Urinary Tract Infection	E. coli, Klebsiella pneumoniae, Pseudomonas	Fosfomycin/ Amikacin/ Wait for cultures	Colistin
Surgical site infection	E. coli, Klebsiella pneumoniae, Acinetobacter, Pseudomonas/ Staphylococcus aureus	Piperacillin-Tazobactam/ Cefoperazone-sulbactam with or without Vancomycin/ Linezolid	Colistin/ Polymixin –B with Carbapenem with or without Vancomycin/ Linezolid
Meningitis	E. coli, Klebsiella pneumoniae, Acinetobacter, Pseudomonas	High dose Meropenem	Colistin/ Polymixin –B and Meropenem

DEFINITIONS USED:

VAP: Ventilator-associated pneumonia (VAP) is defined as pneumonia that occurs 48-72 hours or thereafter following endotracheal intubation, characterized by the presence of a new or progressive infiltrate, signs of systemic infection (fever, altered white blood cell count), changes in sputum characteristics, and detection of a causative agent.[65]

CLABSI: A central line-associated bloodstream infection (CLABSI) is defined as a laboratory-confirmed bloodstream infection not related to an infection at another site that develops within 48 hours of central line placement.[66]

CAUTI: A UTI in a patient who had an indwelling urinary catheter in place at the time of or within 48 hours prior to infection onset.[67]

HAI: HAI is a localized or systemic condition: 1) that results from adverse reaction to the presence of an infectious agent(s) or its toxin(s) and 2) that was present 48 hours or more after hospital admission and not incubating at hospital admission time.[68]

INCLUSION CRITERIA:

- Patients admitted in Paediatric ICU receiving antimicrobials either from outside or started on antimicrobials in PICU of Dayanand Medical College & Hospital, Ludhiana.

EXCLUSION CRIETERIA:

- Neonates
- Patients not receiving any antibiotics
- Immunocompromised patients.
- OPD and paediatric ward patients on antibiotics.

OUTCOME MEASURED: Primary outcome measured were appropriateness of starting and upgradation of antimicrobials, appropriate

dosing of antimicrobials according to Antimicrobial Stewardship Programme implemented.

Secondary outcomes measured were prescription frequency of antimicrobials, distribution of cultures and outcome of the patients.

STATISTICAL ANALYSIS:

Data was described in terms of range; mean ± standard deviation (± SD), median (IQR), frequencies (number of cases) and relative frequencies (percentages) as appropriate. Comparison of quantitative variables between the study groups was done using Student t-test and Mann Whitney U test for independent samples for parametric and non-parametric data respectively. For comparing categorical data, Chi square ($\chi 2$) test was performed and Fischer exact test was used when the expected frequency is less than 5. A probability value (p value) less than 0.05 was be considered statistically significant. All statistical calculations were done using SPSS (Statistical Package for the Social Science) SPSS 21 version statistical program for Microsoft Windows. For studying factors affecting non adherence to antimicrobials descriptive statistical analysis was applied.

OBSERVATIONS & RESULTS

Total of 108 eligible patients were included in the pre-implementation (1st March 2020 to 30th June 2020). Total of 54 eligible patients were included in the post-implementation period (1st December 2020 to 31st Jan 2021).

TABLE 8: DISTRIBUTION OF PATIENTS ACCORDING TO AGE

	GROUP				Total
AGE GROUP	Pre implementation (n=108)		Post implementation (n=54)		
< 1 yr	32	29.6%	16	29.6%	48
1-5yr	25	23.1%	11	20.4%	36
5-10yr	25	23.1%	13	24.1%	38
> 10yr	26	24.1%	14	25.9%	40

Maximum patients i.e. 32 (29.6%) were in the age group of < 1 year age in pre-implementation phase. Maximum patients i.e. 16 (29.6%) were in age group of < 1 year in post- implementation phase.

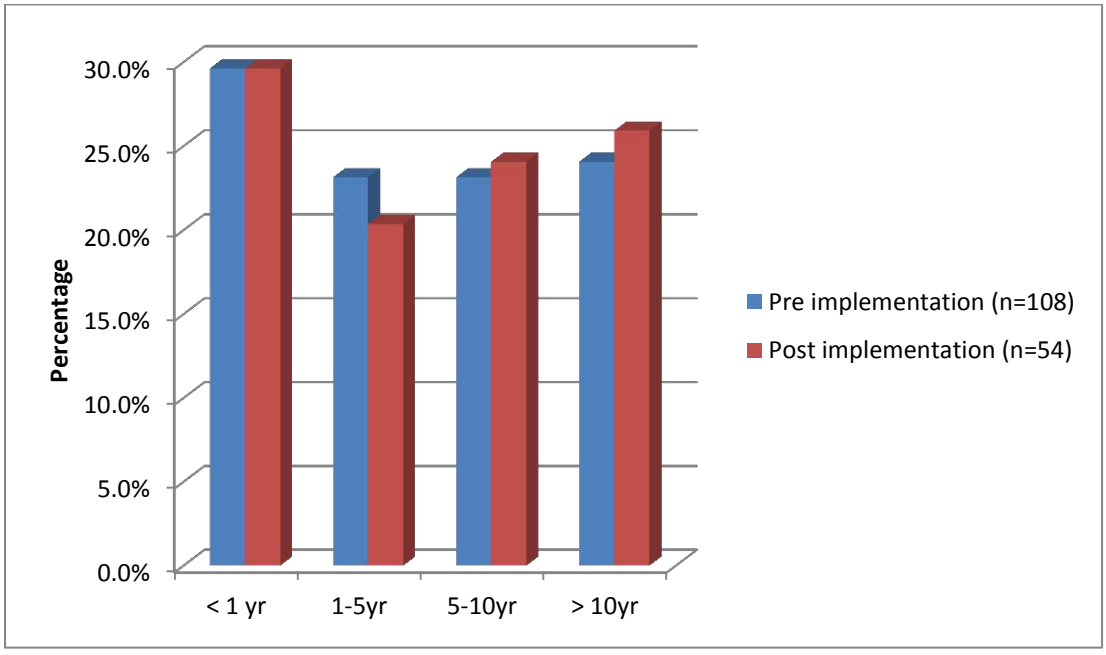

FIGURE 2: DISTRIBUTION OF PATIENTS ACCORDING TO AGE

TABLE 9: MEAN AGE OF PATIENTS IN BOTH THE PHASES

	Pre implementation (n=108)		Post implementation (n=54)	
	Mean	SD	Mean	SD
AGE	5.98	5.72	6.09	5.54

The mean age was 5.98 years and 6.09 years in the pre-implementation and post - implementation phase respectively.

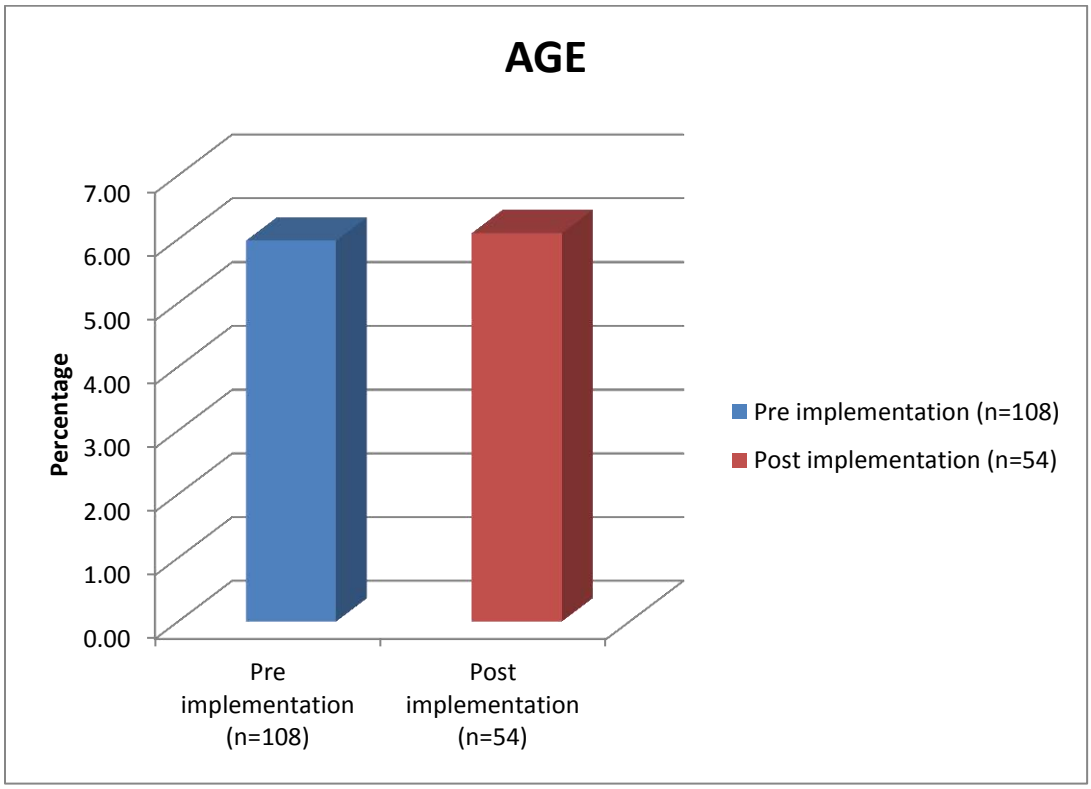

FIGURE 3: MEAN AGE OF PATIENTS IN BOTH THE PERIODS

TABLE 10: DISTRIBUTION OF PATIENTS ACCORDING TO SEX

	GROUP				Total
SEX	Pre implementation (n=108)		Post implementation (n=54)		
FEMALE	41	38.0%	11	20.4%	52
MALE	67	62.0%	43	79.6%	110

In the pre-implementation phase, out of total eligible 108 patients, 67 (62%) were males and 41(38%) were females. In the post-implementation phase 43 (79.6%) were males and 11(20.4%) were females. Male patients out numbered the female patients in both the phases.

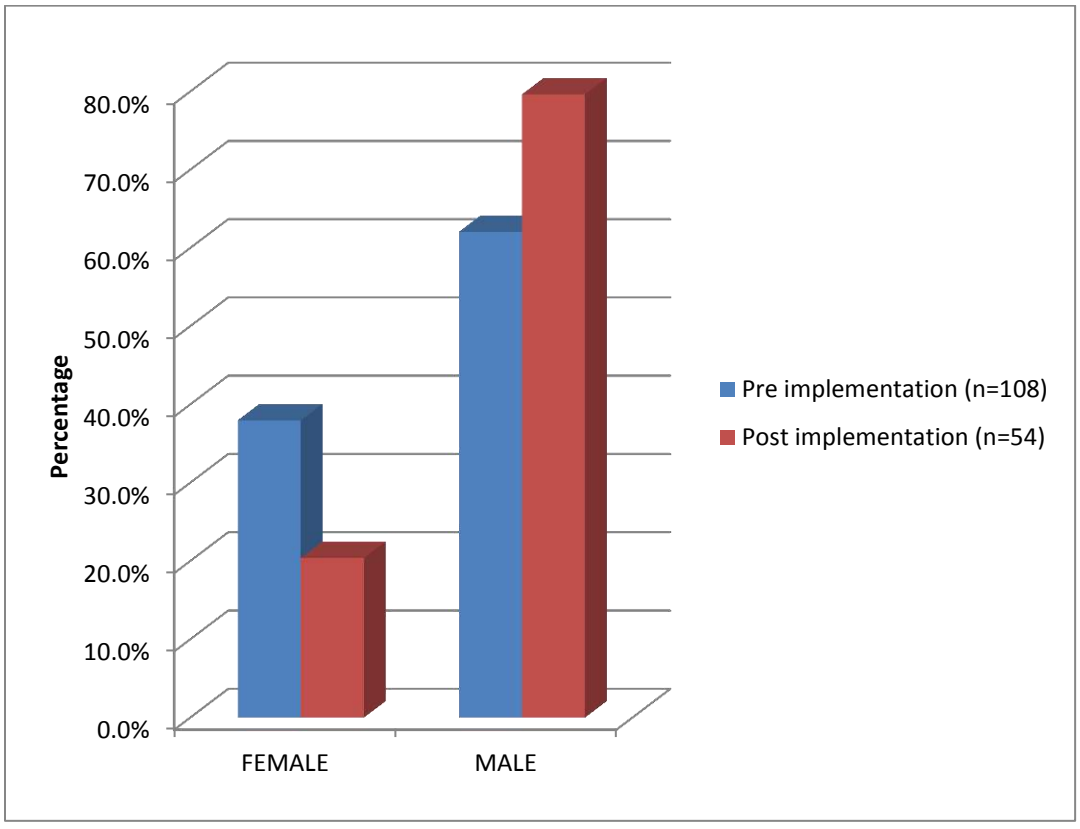

FIGURE 4: DISTRIBUTION OF PATIENTS ACCORDING TO SEX

TABLE 11: DISTRIBUTION OF PATIENTS ACCORDING TO THE SITE OF INFECTION

	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
LRTI	24	22.2%	21	38.9%	45
SSTI	7	6.5%	6	11.1%	13
CLABSI	0	0.0%	4	7.4%	4
CAUTI	3	2.8%	1	1.9%	4
VAP	6	5.6%	6	11.1%	12
BSI	85	78.7%	42	77.8%	127
IAI	17	15.7%	10	18.5%	27

The maximum number of patients i.e. 85 (78.7%) in pre-implementation phase and 42 (77.8%) in the post-implementation phase were suffering from blood stream infections. Patients with Lower respiratory Tract infection were more in post-implementation phase (38.9%). Intra abdominal infections, Ventilator associated pneumonia, Skin and soft tissue infections were more in post -implementation phase than in pre-implementation phase.

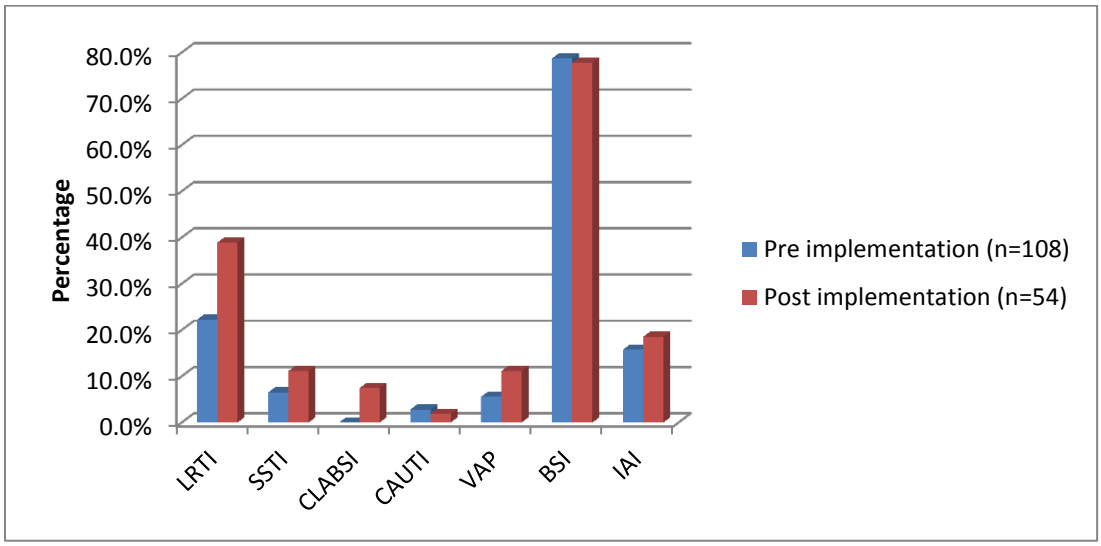

FIGURE 5: DISTRIBUTION OF PATIENTS ACCORDING TO THE SITE OF INFECTION

TABLE 12: DISTRIBUTION OF THE PATIENTS ACCORDING TO SYSTEM INVOLVED IN BOTH THE PHASES

SYSTEM INVOLVED	GROUP				Total
		Pre implementation (n=108)		Post implementation (n=54)	
CNS	31	28.7%	11	20.4%	42
CVS	6	5.6%	5	9.3%	11
GIT	23	21.3%	8	14.8%	31
RENAL	4	3.7%	1	1.9%	5
RESPIRATORY	19	17.6%	10	18.5%	29
SEPSIS	24	22.2%	15	27.8%	39
SSTI	0	0.0%	3	5.6%	3
TROPICAL FEVER	1	0.9%	1	1.9%	2
Total	108	100.0%	54	100.0%	162

According to system involved at time of admission in pre-implementation phase maximum number i.e. 31 (28.7%) were of CNS involvement. In post-implementation period maximum number of patients i.e. 15 (27.8%) were of sepsis. Respiratory system involvement was seen in 19 patients (17.6%) in pre-implementation and 10 patients (18.5%) patients in post-implementation phase. GIT involvement was in 23 patients (21.3%) in pre-implementation and 8 patients (14.8%) in post-implementation phase**.**

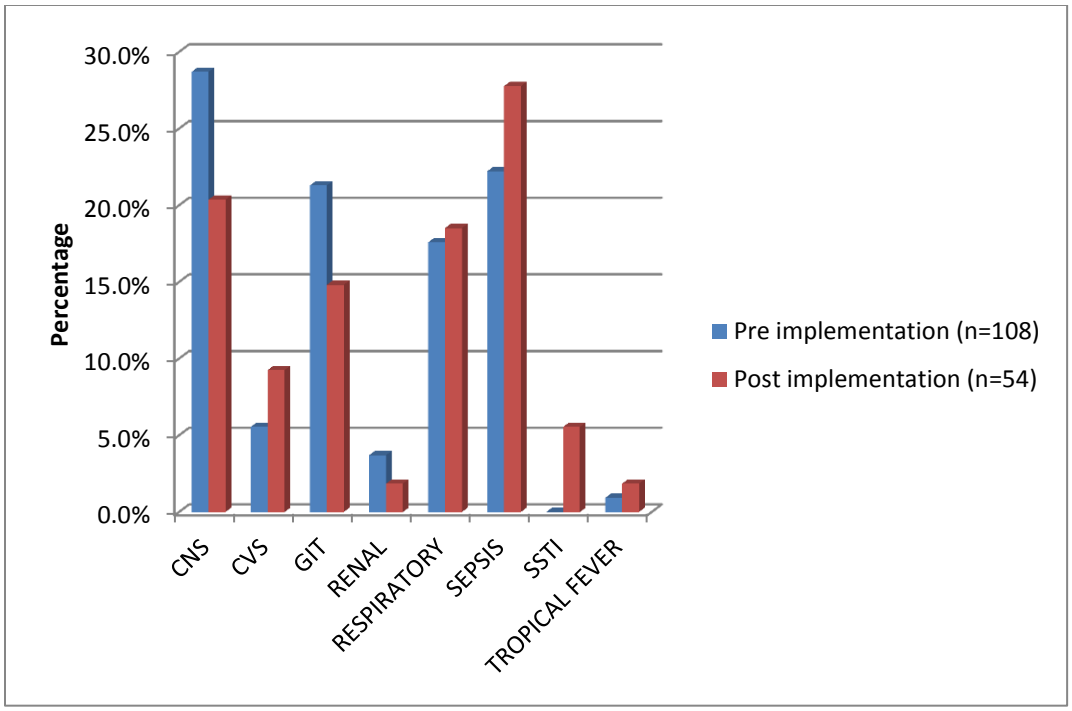

FIGURE 6: DISTRIBUTION OF THE PATIENTS ACCORDING TO SYSTEM INVOLVED IN BOTH THE PHASE

TABLE 13: LIST OF ANTIBIOTICS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU

	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
CEPHALOSPORINE	**92**	**85.2%**	**38**	**70.4%**	
CEFTRIAXONE	49	45.4%	27	50.0%	76
CEFOTAXIM	23	21.3%	6	11.1%	29
CEFUROXIME	20	18.5%	5	9.3%	25
BETA-LACTAM ANTIBIOTIC + BETA-LACTAMASE INHIBITORS	**16**	**14.8%**	**10**	**18.5%**	
CEFEPIME+ TAZOBACTAM	6	5.6%	4	7.4%	10
PIPERACILLIN+TAZOBACTAM	5	4.6%	4	7.4%	9
CEFOPERAZONE+ SULBACTAM	3	2.8%	2	3.7%	5
AMOXICILLIN+CLAVULINIC ACID	2	1.9%	0	0.0%	2
CARBAPENEMS	**26**	**24.1%**	**17**	**31.5%**	
MEROPENEM	25	23.1%	14	25.9%	39
IMIPENEM	1	0.9%	3	5.6%	4
AMINOGLYCOSIDES	**13**	**12.0%**	**2**	**3.7%**	
AMIKACIN	11	10.2%	2	3.7%	13
GENTAMICIN	2	1.9%	0	0.0%	2
FLUOROQUINOLONES	**1**	**0.9%**	**3**	**5.6%**	
CIPROFLOXACIN	1	0.9%	3	5.6%	4
MACROLIDES	16	14.8%	12	22.2%	
AZITHROMYCIN	16	14.8%	11	20.4%	27
CLINDAMYCIN	0	0.0%	1	1.9%	1
GLYCOPEPTIDE	**32**	**29.6%**	**21**	**38.9%**	
VANCOMYCIN	31	28.7%	19	35.2%	50
TIGECYCLINE	1	0.9%	2	3.7%	3
OTHERS	**27**	**25.0%**	**20**	**37.0%**	
COLISTIN	6	5.6%	5	9.3%	11
TEICOPLANIN	5	4.6%	6	11.1%	11
METRONIDAZOLE	4	3.7%	5	9.3%	9
LINEZOLID	5	4.6%	2	3.7%	7
NETILMICIN	3	2.8%	0	0.0%	3
ROXITHROMYCIN	2	1.9%	1	1.9%	3
DAPTOMYCIN	1	0.9%	0	0.0%	1
DOXYCYCLINE	1	0.9%	0	0.0%	1
POLYMIXIN B	0	0.0%	1	1.9%	1

Most common drug prescribed in PICU in both pre-intervention and post-implementation phase were Cephalosporins (85%) with Ceftriaxone being prescribed 45.4% and 50% respectively. In Glycopeptides group Vancomycin was most commonly prescribed drug in both the phases. In comparison with pre-implementation and post-implementation phases Carbapenems were more prescribed (31.5%) in post-intervention phases. Fixed drug combinations used in PICU in both the phases were Piperacillin and Tazobactam, Amoxicillin and Clavulinic Acid, Cefoperazone and Sulbactam , Cefepime and Tazobactam. Piperacillin and Tazobactam, Cefepime and Tazobactam were more commonly prescribed in post-implementation phase.

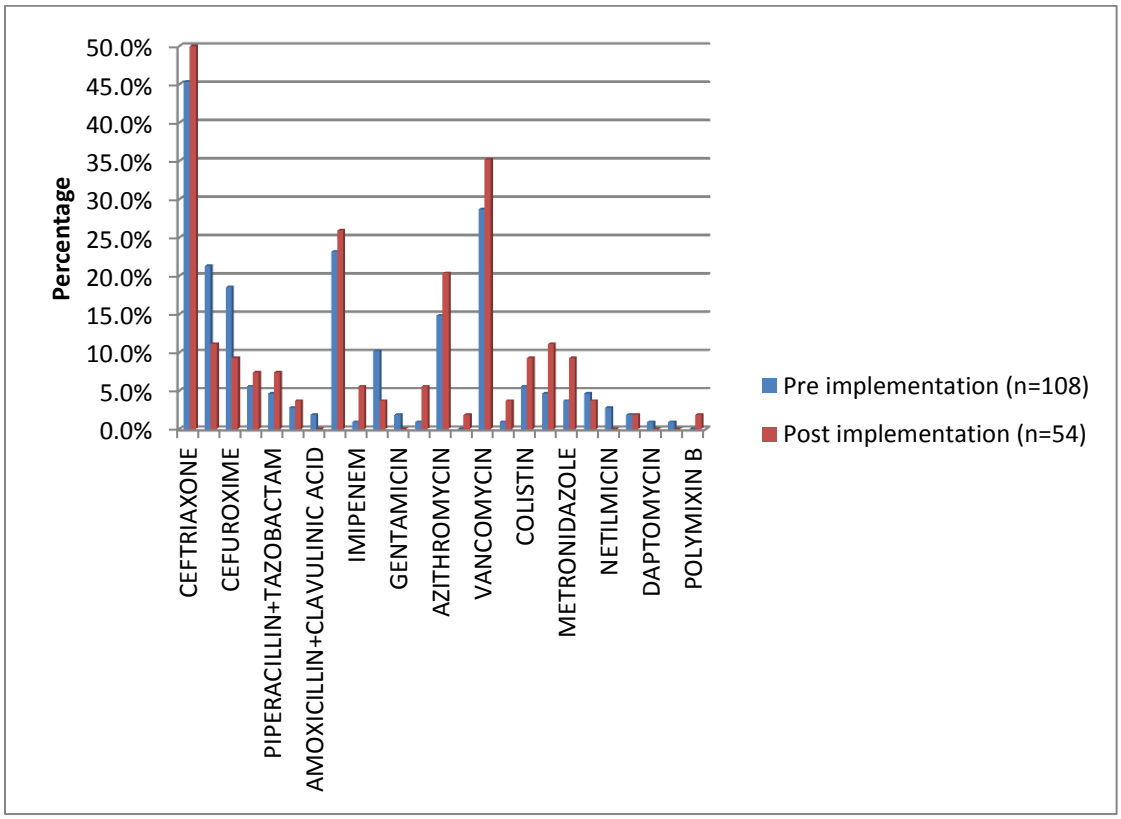

FIGURE 7: LIST OF ANTIBIOTICS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU

TABLE 14: LIST OF ANTIFUNGALS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU IN BOTH PHASES

	GROUP			
	Pre implementation (n=108)		Post implementation (n=54)	
FLUCONAZOLE	6	5.6%	6	11.1%
VORICONAZOLE	5	4.6%	7	13.0%
CASPOFUNGIN	0	0.0%	1	1.9%
LIPOSOMAL AMPHOTERICIN B	0	0.0%	1	1.9%

Antifungal drugs prescribed to the patients in PICU were Fluconazole, Voriconazole, Amphotericin B and Caspofungin. Out of these most common prescribed anti fungals was Fluconazole (11.1%) in post-implementation phase and Voriconazole (13%) in post-implementation phase.

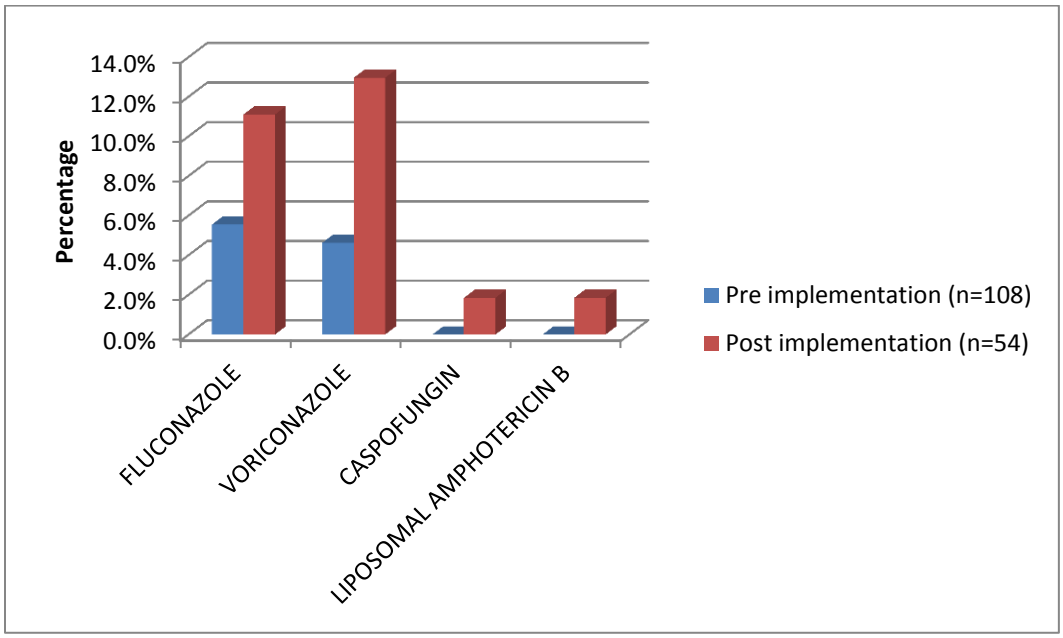

FIGURE 8: LIST OF ANTIFUNGALS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU IN BOTH PHASES

TABLE 15: LIST OF ANTIVIRALS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU IN BOTH THE PHASES

	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
VALACYCLOVIR	0	0.0%	1	1.9%	1
ACICLOVIR	13	12.0%	3	5.6%	16

Antimicrobial drug prescribed in PICU in both pre-implementation and post-implementation phases was Aciclovir. Aciclovir was prescribed in 12% cases in pre-implementation and in 5.6% cases in post-implementation phase. Valaciclovir was only implemented in Post - implementation phase.

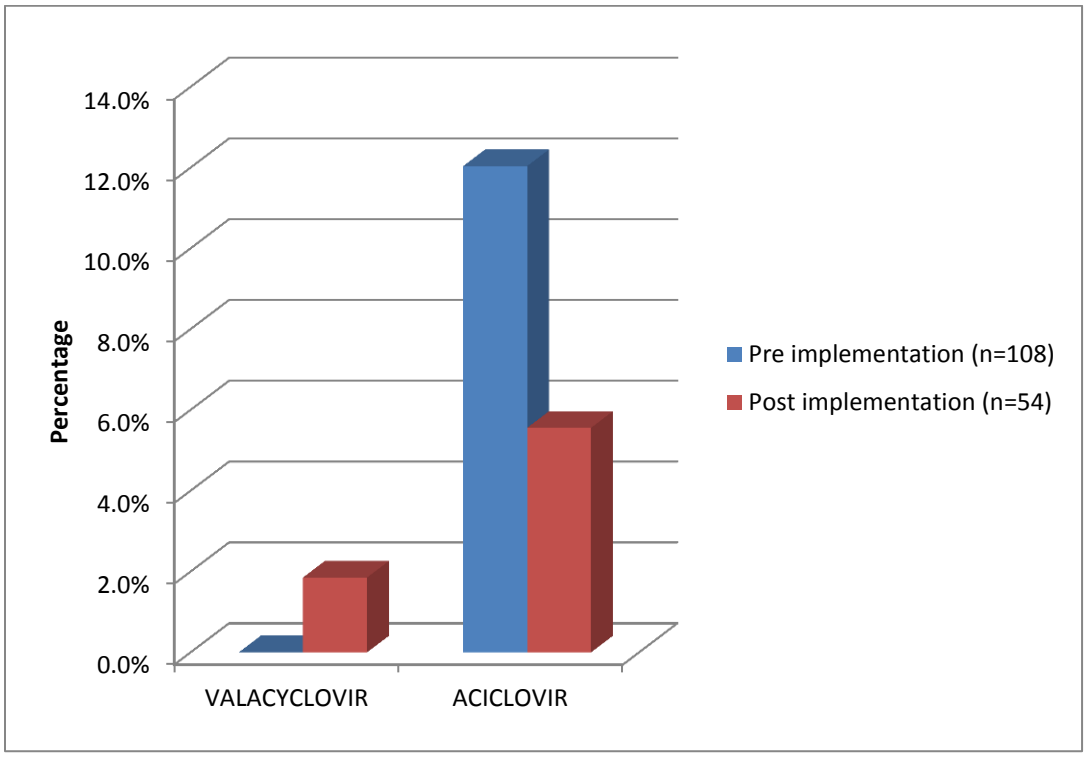

FIGURE 9: LIST OF ANTIVIRALS PRESCRIBED TO THE PATIENTS ADMITTED IN PICU IN BOTH THE PHASES

TABLE 16: DISTRIBUTION OF PATIENTS ACCORDING TO NUMBER OF ANTIMICROBIALS PRESCRIBED IN PICU IN BOTH THE PHASES

Total no. of antibiotics	GROUP				Total
	Pre implementation		Post implementation		
1	45	41.7%	20	37.0%	65
2	32	29.6%	14	25.9%	46
3	10	9.3%	5	9.3%	15
4	10	9.3%	4	7.4%	14
5	4	3.7%	5	9.3%	9
6	4	3.7%	4	7.4%	8
7	1	0.9%	2	3.7%	3
8	2	1.9%	0	0.0%	2

In both pre-implementation and post -implementation phases ,maximum number of patients were on single antimicrobial therapy ; 41.7 % and 37% respectively. This was followed by dual drug therapy which was 29.6% in pre-implementation phase and 25.9% in post implementation phase.

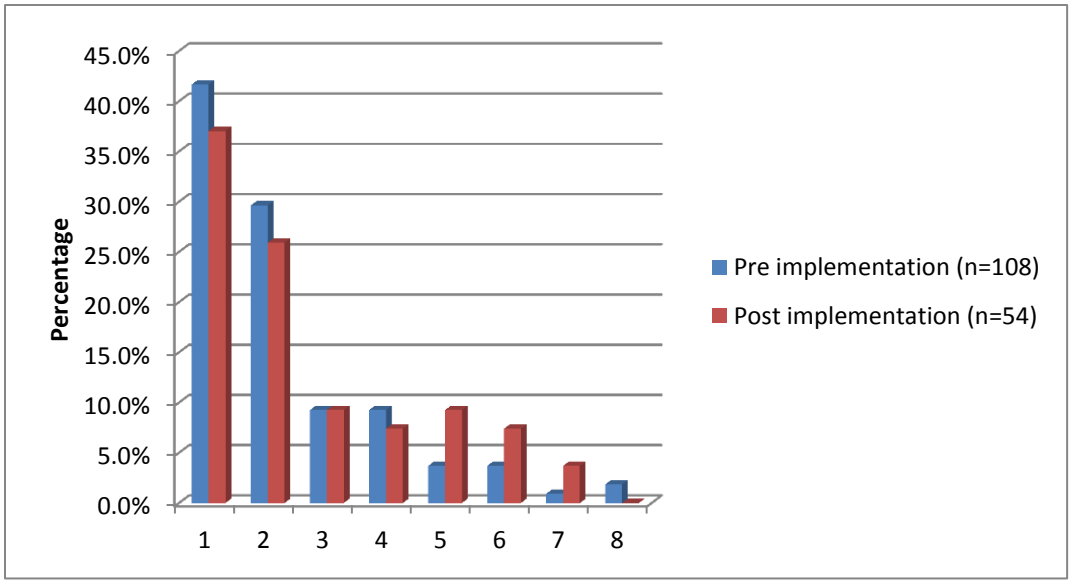

FIGURE 10: DISTRIBUTION OF PATIENTS ACCORDING TO NUMBER OF ANTIMICROBIALS PRESCRIBED IN PICU IN BOTH THE PHASES

TABLE 17: MEAN OF NUMBER OF ANTIMICROBIALS PRESCRIBED PER PATIENT IN PICU IN BOTH THE PHASES

	Pre implementation (n=108)		Post implementation (n=54)	
	Mean	SD	Mean	SD
Total no. of antibiotics	2.28	1.63	2.63	1.84

The mean of antimicrobials prescribed per patient was 2.28±1.63 in the pre-implementation phase and 2.63±1.84 in post-implementation phase.

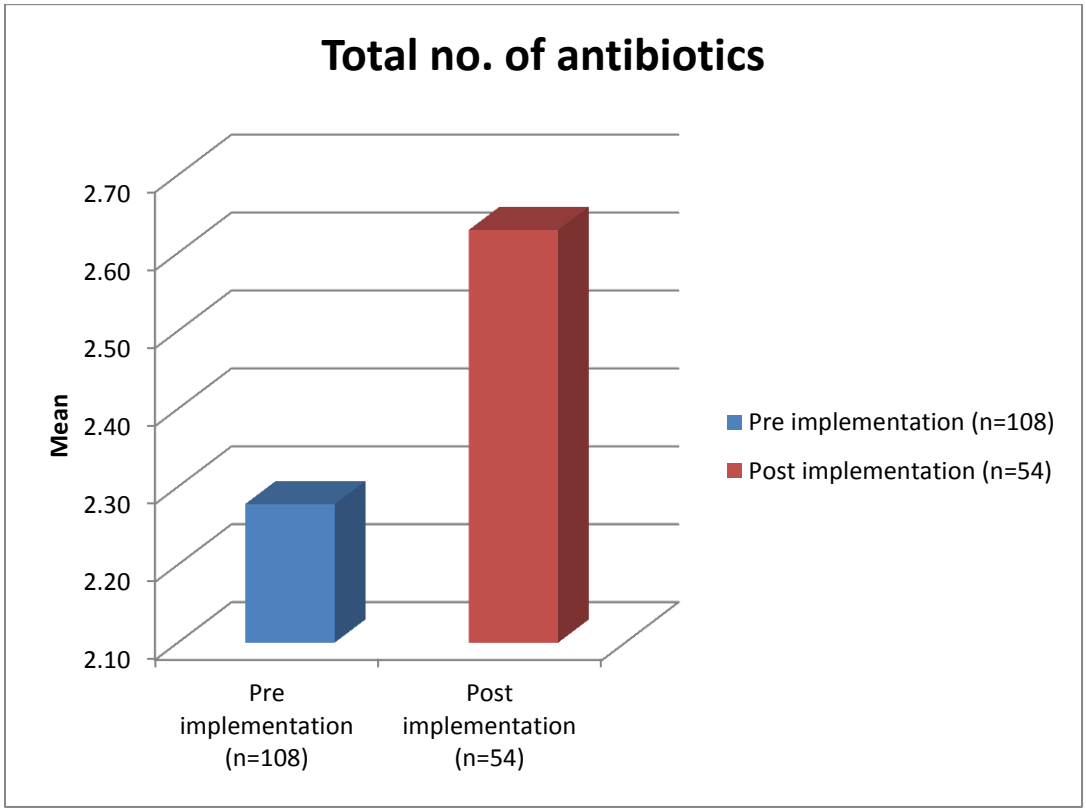

FIGURE 11: MEAN OF NUMBER OF ANTIMICROBIALS PRESCRIBED PER PATIENT IN PICU IN BOTH THE PHASES

TABLE 18: MEAN LENGTH OF PICU STAY IN BOTH THE PHASES

	Pre implementation (n=108)		Post implementation (n=54)	
	Mean	SD	Mean	SD
length of stay	11.14	9.78	9.52	8.98

The median length of PICU stay was 11.14±9.78 days in pre-implementation phase and 9.52±8.98 days in post- implementation phase.

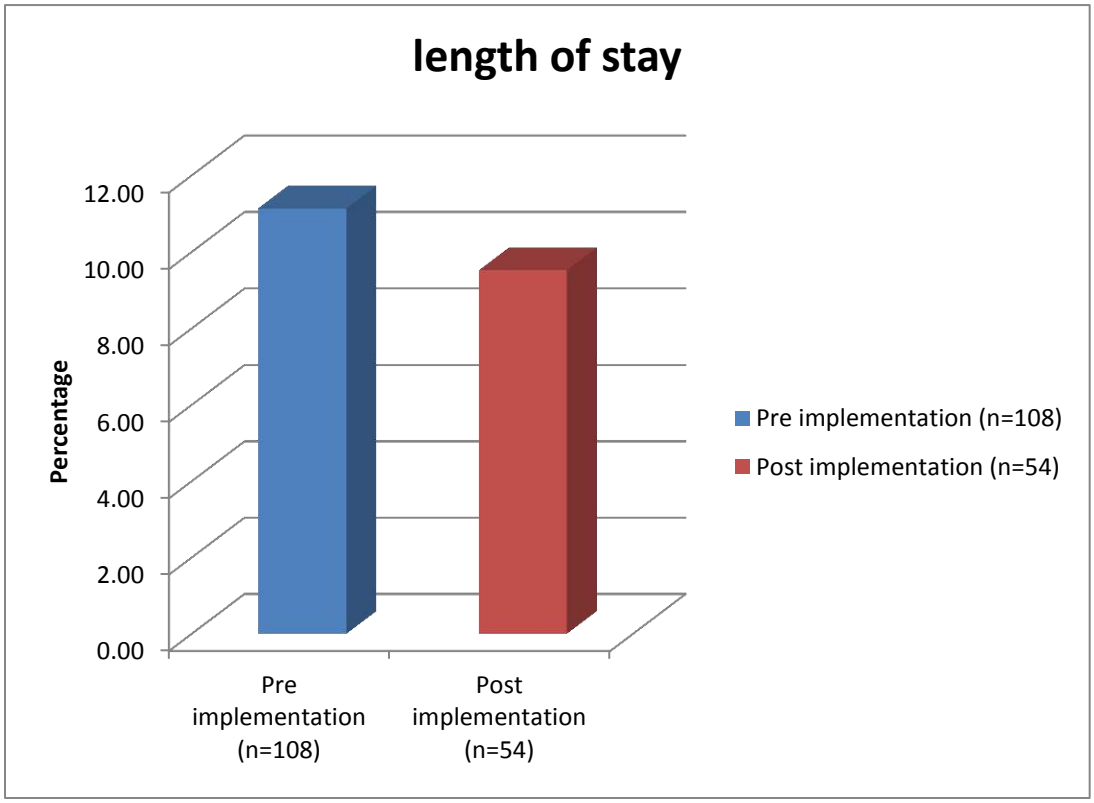

FIGURE 12: MEAN LENGTH OF PICU STAY IN BOTH THE PHASES

TABLE 19: DISTRIBUTION OF SPECIMENS ACCORDING TO CULTURE POSITIVITY IN BOTH THE PHASES

	Sent				Total	Positive				Total
	Pre implementation (n=108)		Post implementation (n=54)			Pre implementation (n=108)		Post implementation (n=54)		
URINE C/S	13	12.0%	22	40.7%	35	3	23.1%	3	13.6%	6
BLOOD C/S	103	95.4%	51	94.4%	154	18	17.5%	11	21.6%	29
RESPIRATORY C/S	11	10.2%	17	31.5%	28	7	63.6%	10	58.8%	17
PUS C/S	5	4.6%	6	11.1%	11	4	80.0%	5	83.3%	9
BODY FLUID C/S	23	21.3%	11	20.4%	34	6	26.1%	1	9.1%	7

Total of 103 blood cultures were sent in pre-implementation phase, out of which 18 i.e. 17.5% cultures came out to be positive. Post- implementation phase 51 blood cultures were sent, out of which 11 i.e. 21.6% came out to be positive. 11 BAL culture were sent in pre-implementation phase , out of which 7 (63.6%)came out to be positive. 17 BAL culture were sent in post-implementation phase, out of which 10 (58.8%) came out to be positive**.** Out of 13 urine cultures sent in pre-implementation phase and 22 urine cultures sent post- implementation phase, 3 urine cultures were positive in each phase. 5 Pus cultures were sent in pre-implementation phase and 4 came out to be positive i.e. 80%. 6 Pus cultures were sent in pre-implementation phase and 5 came out to be positive i.e. 83.3%. 23 samples of different body fluids were sent, out of which 6 came out to be positive in pre-implementation phase. Out of 11 body fluid cultures sent post-implementation phase, 1 came out to be positive.

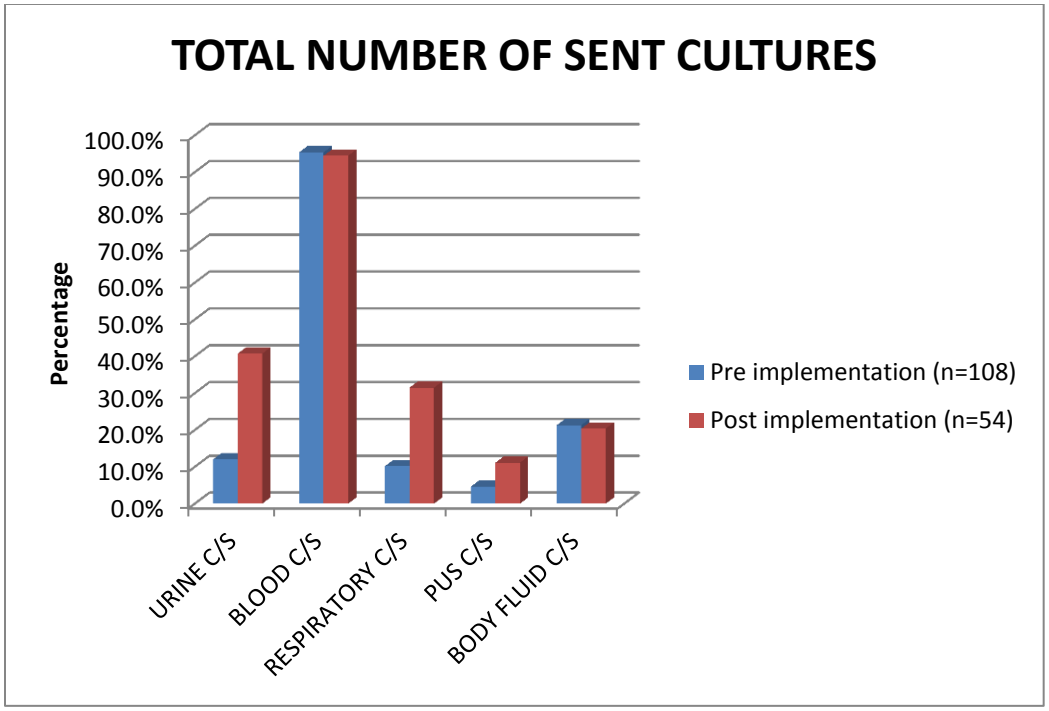

FIGURE 13: TOTAL NUMBER OF SENT CULTURES

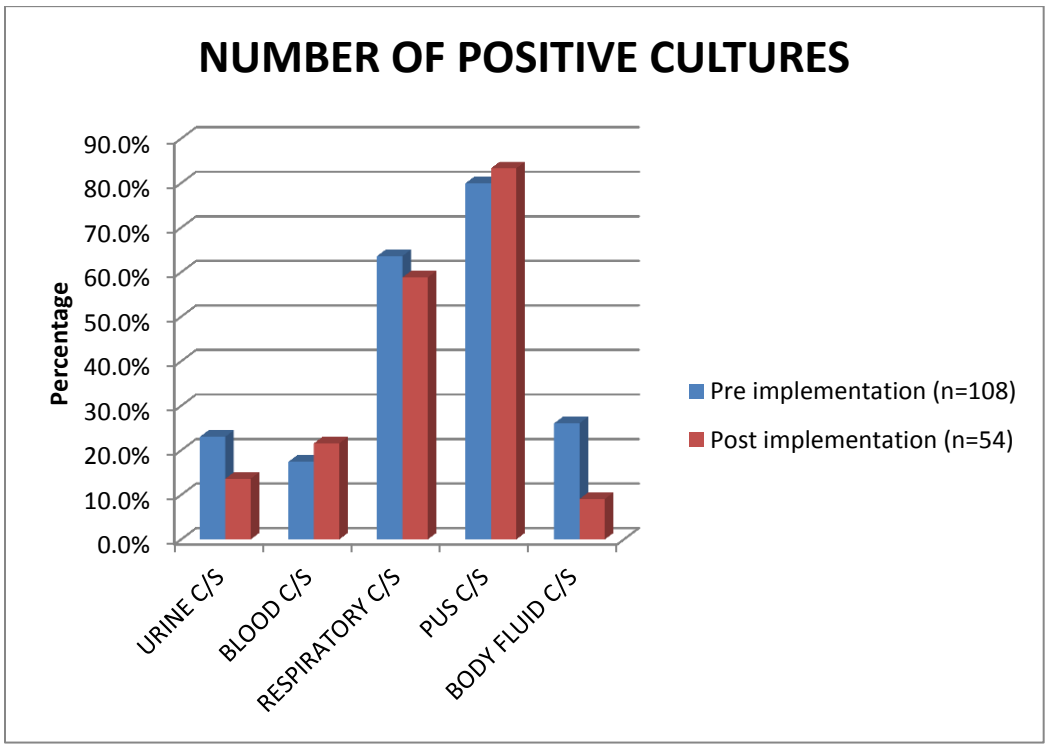

FIGURE 14: TOTAL NUMBER OF POSITIVE CULTURES

TABLE 20: DISTRIBUTION OF URINARY ISOLATES IN BOTH THE PHASES

MICRO-ORGANISM IN URINE C/S	GROUP				Total
	Pre implementation (n=108)	Pre implementation (n=108)	Post implementation (n=54)	Post implementation (n=54)	
E.COLI	0	0.0%	3	13.6%	3
KLEBSIELLA PNEUMONIAE	3	23.1%	0	0.0%	3

3 Urine cultures were sent in pre-implementation phase and all 3 cultures were positive for Klebsiella pneumoniae. 3 Urine cultures were sent in pre-implementation phase and all 3 cultures were positive for E. Coli.

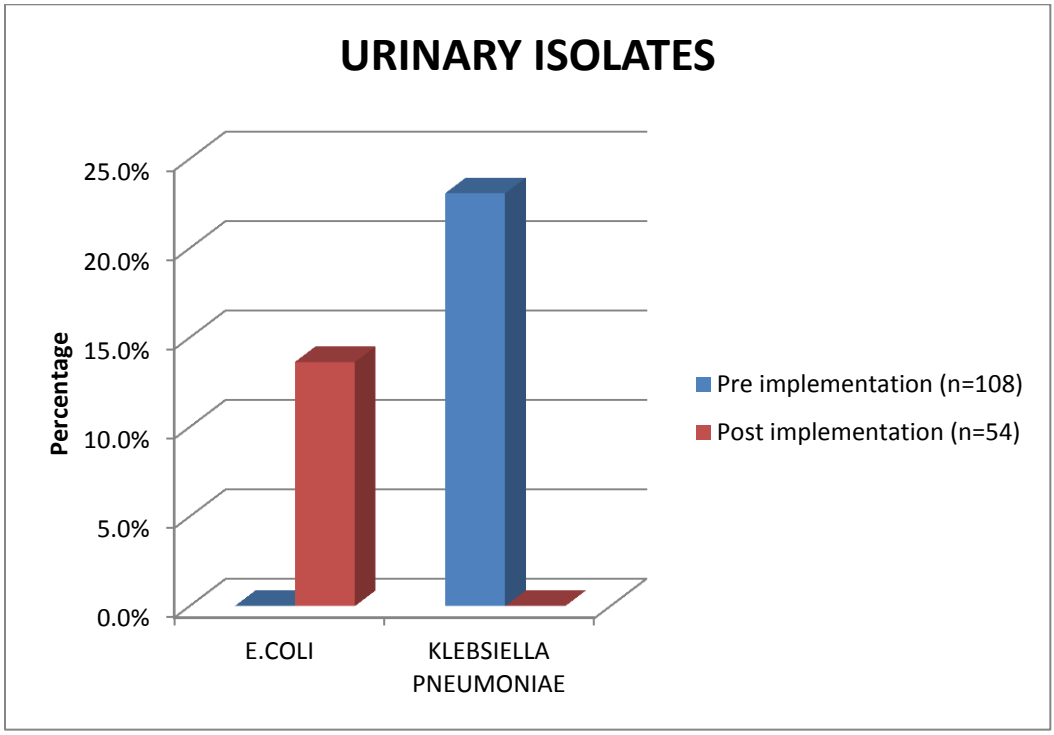

FIGURE 15: DISTRIBUTION OF URINARY ISOLATES IN BOTH THE PHASE

TABLE 21: DISTRIBUTION OF BLOOD ISOLATES IN BOTH THE PHASE

MICRO-ORGANISM IN BLOOD C/S	GROUP				Total
	Pre implementation		Post implementation		
KLEBSIELLA PNEUMONIAE	5	4.9%	7	13.7%	12
STAPHYLOCOCCUS AUREUS	4	3.9%	1	2.0%	5
E.COLI	3	2.9%	0	0.0%	3
SALMONELLA TYPHI	3	2.9%	0	0.0%	3
STAPHYLOCOCCUS EPIDERMIDIS	1	1.0%	1	2.0%	2
CANDIDA CIFERRII	0	0.0%	1	2.0%	1
CANDIDA PEDICULLOSA	1	1.0%	0	0.0%	1
PSEUDOMONAS AERUGINOSA	2	1.9%	0	0.0%	2
ACINETOBACTER BAUMANII	1	1.0%	0	0.0%	1
STAPHYLOCOCCUS HEMOLYTICUS	0	0.0%	1	2.0%	1

Total of 103 blood cultures were sent in pre-implementation phase, out of them 18 blood cultures came out to be positive. Total of 51 blood cultures were sent in pre-implementation phase, out of them 11 blood cultures came out to be positive. In the pre-implementation phase most common organisms isolated in blood culture were Klebsiella pneumoniae (4.9%), Staphylococcus aureus (3.9%), E.Coli (2.9%) and Salmonella typhi (2.9%), Pseudomonas aeruginosa (1.9%). In the post-implementation phase most common organisms isolated in blood culture were Klebsiella (13.7%), Staphylococcus aureus (2%), Candida ciferrii (2%), Staphylococcus hemolyticus (2%). Out of 18 blood cultures positive in pre-implementation phase, 1 was gram positive organism. Out of 11 blood cultures positive in post-implementation phase, 2 were gram positive organism.

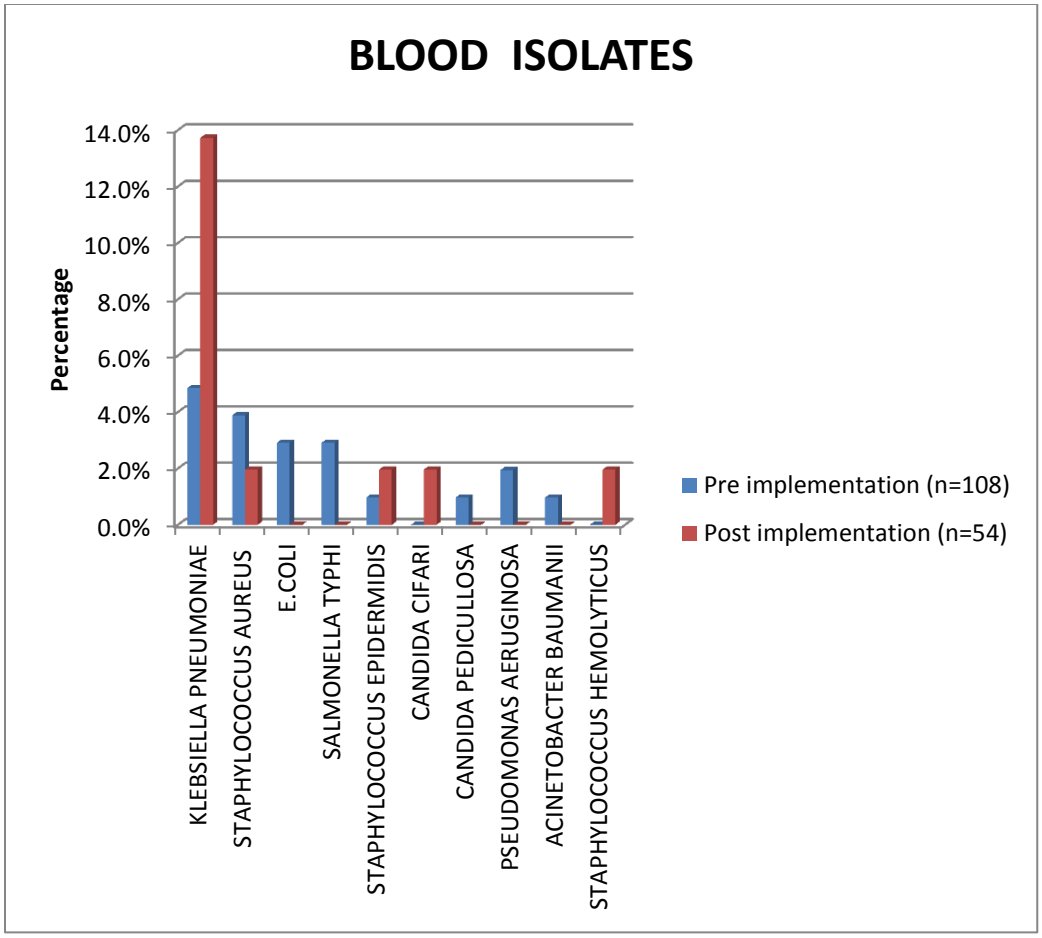

FIGURE 16: DISTRIBUTION OF BLOOD ISOLATES IN BOTH THE PHASES

TABLE 22: DISTRIBUTION OF RESPIRATORY ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

MICRO-ORGANSIM IN RESPIRATORY C/S	GROUP				Total
	Pre implementation (n=108)	Pre implementation (n=108)	Post implementation (n=54)	Post implementation (n=54)	
ACINETOBACTER BAUMANII	2	18.2%	3	17.6%	5
KLEBSIELLA PNEUMONIAE	4	36.4%	4	23.5%	8
ASPERGILLUS FLAVUS	0	0.0%	1	5.9%	1
ENTEROBACTER	0	0.0%	1	5.9%	1
PSEUDOMONAS AERUGINOSA	3	27.3%	2	11.8%	5
STRENOTROPHOMONAS MALTOPHILIA	0	0.0%	1	5.9%	1

In the pre-implementation phase, total 11 Respiratory (BAL) cultures were sent, and 7 came out to be positive. In the post-implementation phase, total 17 BAL cultures were sent, and 10 came out to be positive. Most common organism isolated in pre-implementation period was Klebsiella pneumoniae (36.4%), followed by Pseudomonas aeruginosa (27.3%). Acinetobacter baumanii was isolated in 18.2% of sent cultures in pre-implementation phase. In post-implementation phase, most common organism isolated was Klebsiella pneumoniae (23.5%), followed by Acinetobacter baumanii (17.6%). Pseudomonas aeruginosa was isolated in 11.8 % of sent cultures in post- implementation phase. Pseudomonas aeruginosa isolates were less in post-implementation phase than pre-implementation phase.

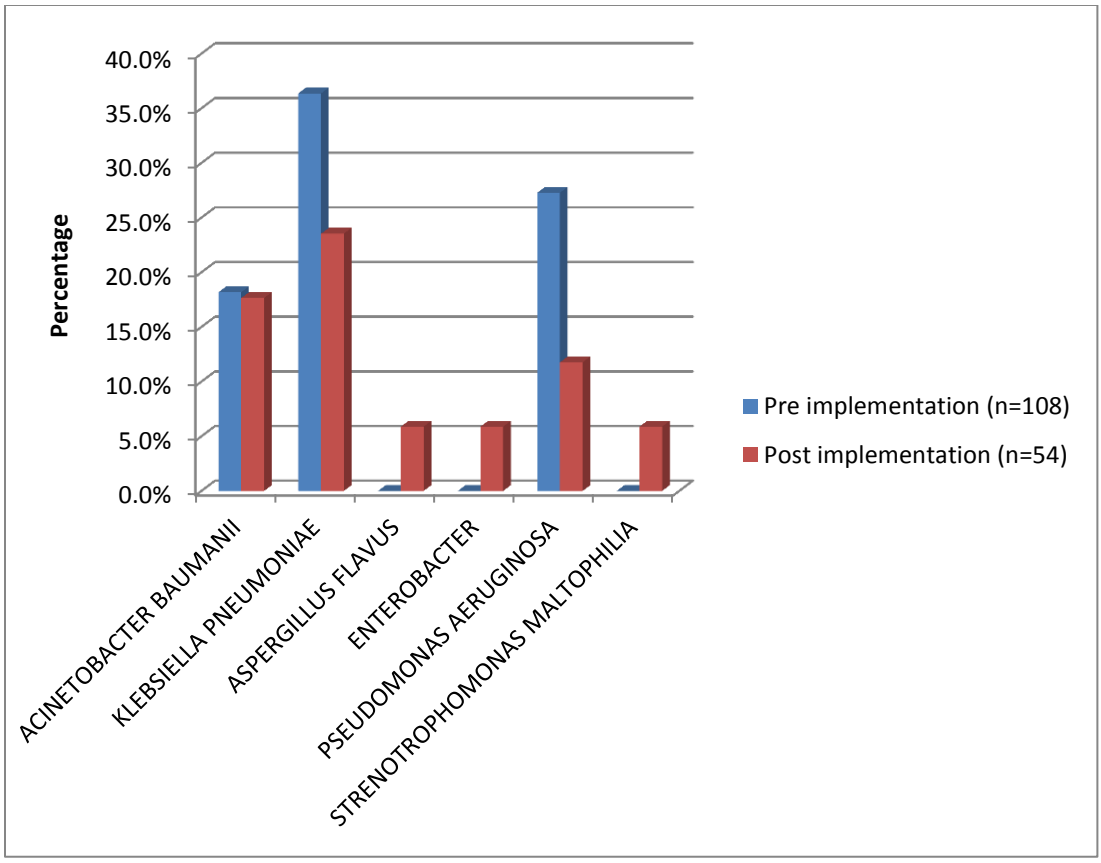

FIGURE 17: DISTRIBUTION OF RESPIRATORY ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

TABLE 23: DISTRIBUTION OF PUS ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

MICRO- ORGANISM IN PUS C/S	GROUP				Total
	Pre implement tation (n=108)	Pre implement tation (n=108)	Post implement tation (n=54)	Post implement tation (n=54)	
BURKHOLDERIA CEPACIA	0	0.0%	1	16.7%	1
KLEBSIELLA PNEUMONIAE	1	20.0%	3	50.0%	4
PSEUDOMONAS AERUGINOSA	2	40.0%	0	0.0%	2
E.COLI	0	0.0%	1	16.7%	1
STAPHYLOCOCCUS AUREUS	2	40.0%	3	50.0%	5

In pre-implementation phase total 3 organisms were isolated from pus cultures; out of them 1 was gram positive and 2 were gram negative isolates. In post- implementation phase total 4 organisms were isolated from pus cultures; out of them 1 was gram positive and 3 were gram negative isolates. Staphylococcus aureus was the gram positive organism isolated. Gram negative organisms isolated were Klebsiella pneumoniae and Pseudomonas aeruginosa.

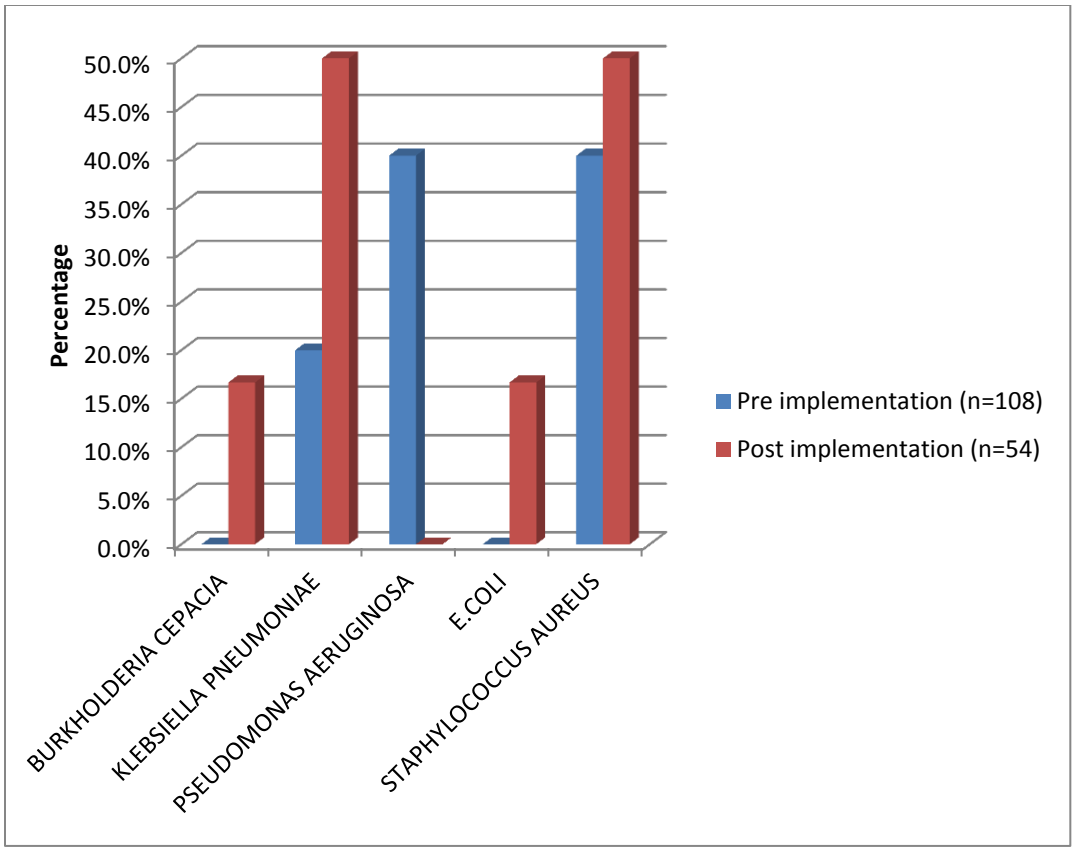

FIGURE 18: DISTRIBUTION OF PUS ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

TABLE 24: DISTRIBUTION OF BODY FLUID ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

MICRO-ORGANSIM IN BODY FLUID C/S	GROUP				Total
	Pre implementation (n=108)	Pre implementation (n=108)	Post implementation (n=54)	Post implementation (n=54)	
KLEBSIELLA PNEUMONIAE	0	0.0%	1	9.1%	1
STAPHYLOCOCCUS AUREUS (MRSA)	4	17.4%	0	0.0%	4
STAPHYLOCOCCUS EPIDERMIDIS	2	8.7%	0	0.0%	2

BODY FLUID C/S SENT	GROUP				Total
	Pre implementation (n=108)	Pre implementation (n=108)	Post implementation (n=54)	Post implementation (n=54)	
ASCITIC FLUID	0	0.0%	2	3.8%	2
CSF C/S	15	13.9%	6	11.1%	21
PERICARDIAL FLUID	1	0.9%	0	0.0%	1
PERICARDIAL FLUID, STOOL C/S	1	0.9%	0	0.0%	1
PERITONEAL FLUID C/S	1	0.9%	1	1.9%	2
PLEURAL FLUID C/S	4	3.7%	0	0.0%	4
STOOL C/S	1	0.9%	1	1.9%	2
TISSUE C/S	0	0.0%	1	1.9%	1

In pre-implementation phase, total 23 body fluid cultures were sent, out of which 6 came out to be positive. Most common organism isolated in body fluid cultures in pre- implementation phase was Staphylococcus aureus (17.4%).

In post- implementation phase, total 11 body fluid cultures were sent, out of which 1 came out to be positive. The organism isolated in hat positive culture was Klebsiella pneumoniae. Rest of samples sent were sterile.

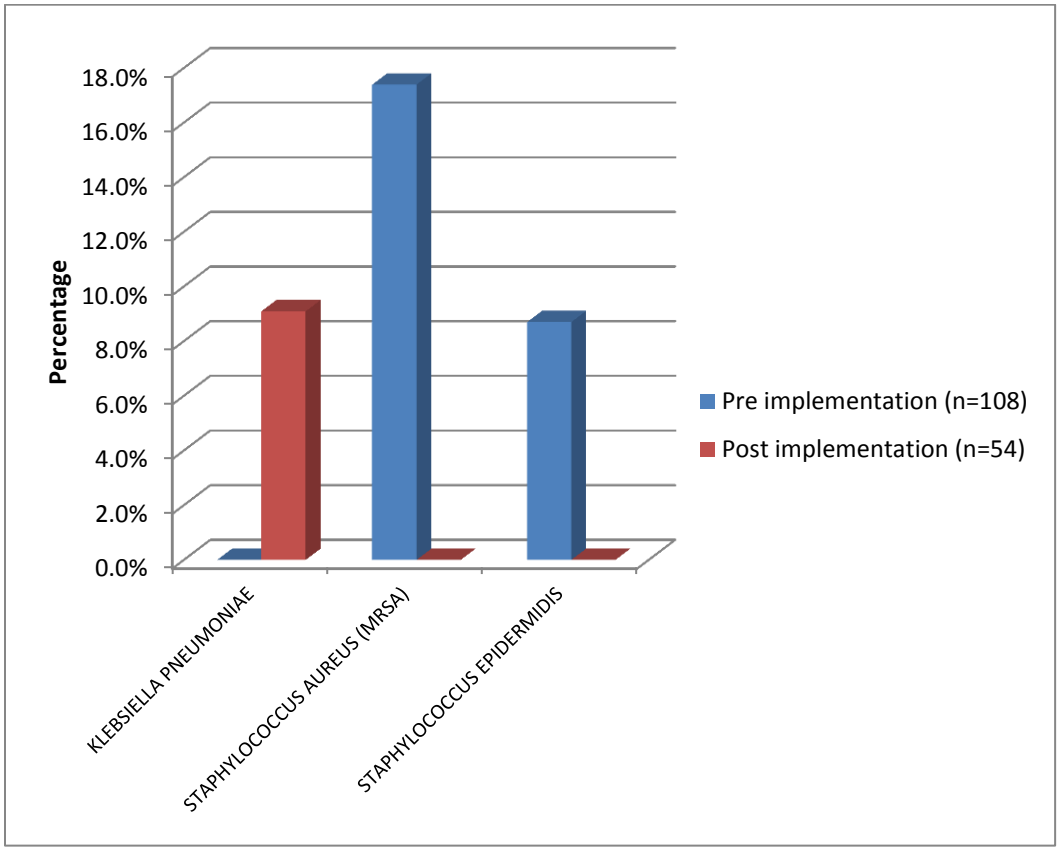

FIGURE 19: DISTRIBUTION OF BODY FLUID ISOLATES OBTAINED IN CULTURES IN PATIENTS IN BOTH PHASES

TABLE 25: COMPARISON OF PHYSICIAN DISCRETION/PREFERNCE IN ANTIMICROBIAL PRESCRIPTION IN BOTH PHASES

Physician Discretion / Preference	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
NO	108	100.0%	54	100.0%	162
YES	0	0.0%	0	0.0%	

No physician discretion was noted during the study in both phases in prescribing antimicrobials by the physician.

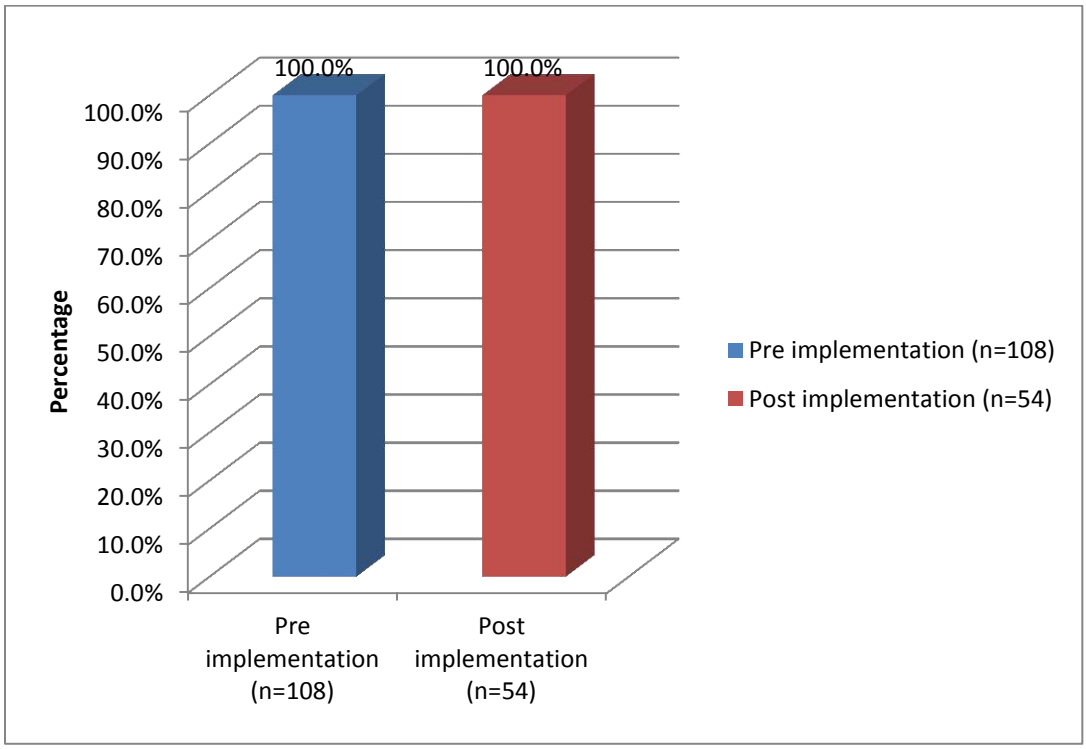

FIGURE 20: COMPARISON OF PHYSICIAN DISCRETION/PREFERENCE IN ANTIMICROBIAL PRESCRIPTION IN BOTH PHASES

TABLE 26: COMPARISON OF APPROPRIATENESS OF STARTING AND UPGRADATION OF ANTIMICROBIALS IN POST-IMPLEMENTATION AND POST-IMPLEMENTATION PHASE

Appropriate upgradation of antimicrobials done or not?	GROUP				Total	Chi-square value	p-value
	Pre implementation (n=108)		Post implementation (n=54)				
NO	33	30.6%	14	25.9%	47	0.375	0.540
YES	75	69.4%	40	74.1%	115		

The frequency of appropriateness of starting and upgradation of antimicrobials was noted in 69.4% of patients in pre-implementation phase. This frequency of appropriateness of starting and upgradation of antimicrobials was noted in 74.1% of patients in post-implementation phase. The frequency of appropriateness of antimicrobials improved from 69.4% to 74.1% in post-implementation phase.

Trend was towards improvement in antimicrobial prescription pattern in form of appropriateness of starting and upgradation from pre-implementation to post-implementation phase, but the impact did not achieve statistical significance (p value: 0.540)

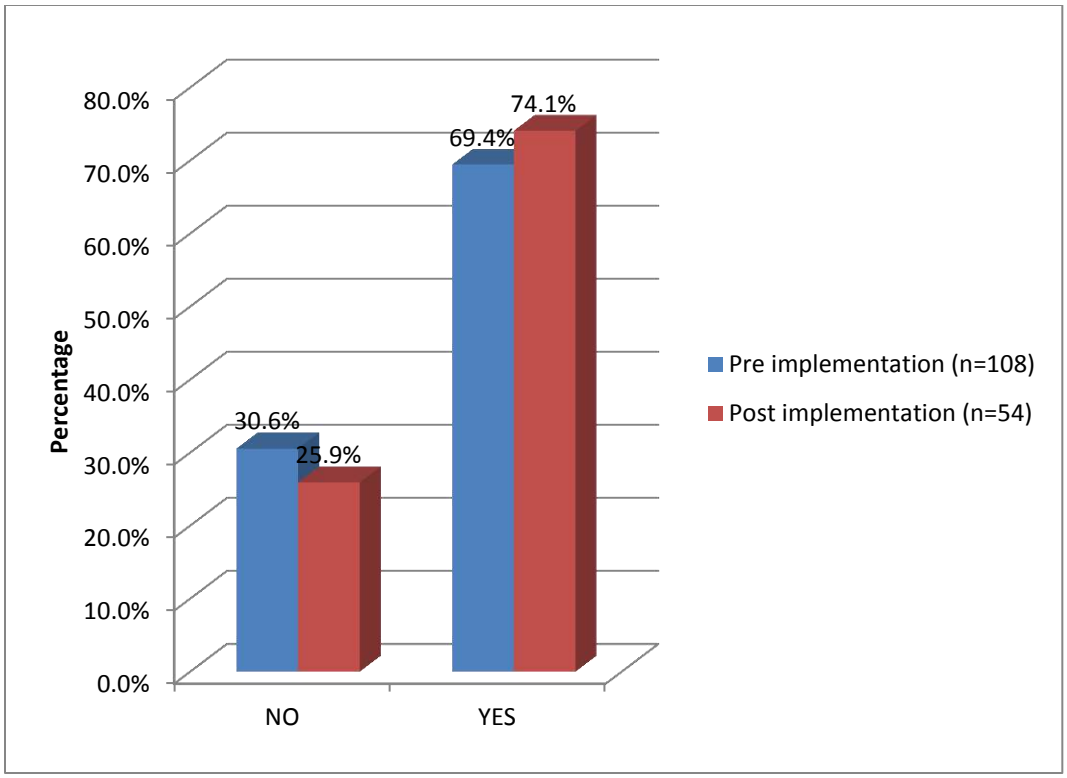

FIGURE 21: COMPARISON OF APPROPRIATENESS OF STARTING AND UPGRADATION OF ANTIMICROBIALS IN POST-IMPLEMENTATION AND POST-IMPLEMENTATION PHASE

TABLE 27: DISTRIBUTION OF PATIENTS ACCORDING TO APPROPRIATE DOSAGE IN BOTH THE PHASES

WHETHER APPROPRIATE DOSAGE GIVEN OR NOT?	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
YES	108	100.0%	54	100.0%	162
NO	0	0%	0	0%	

In both pre-implementation phase and post-implementation phase, appropriate drug dosages were given.

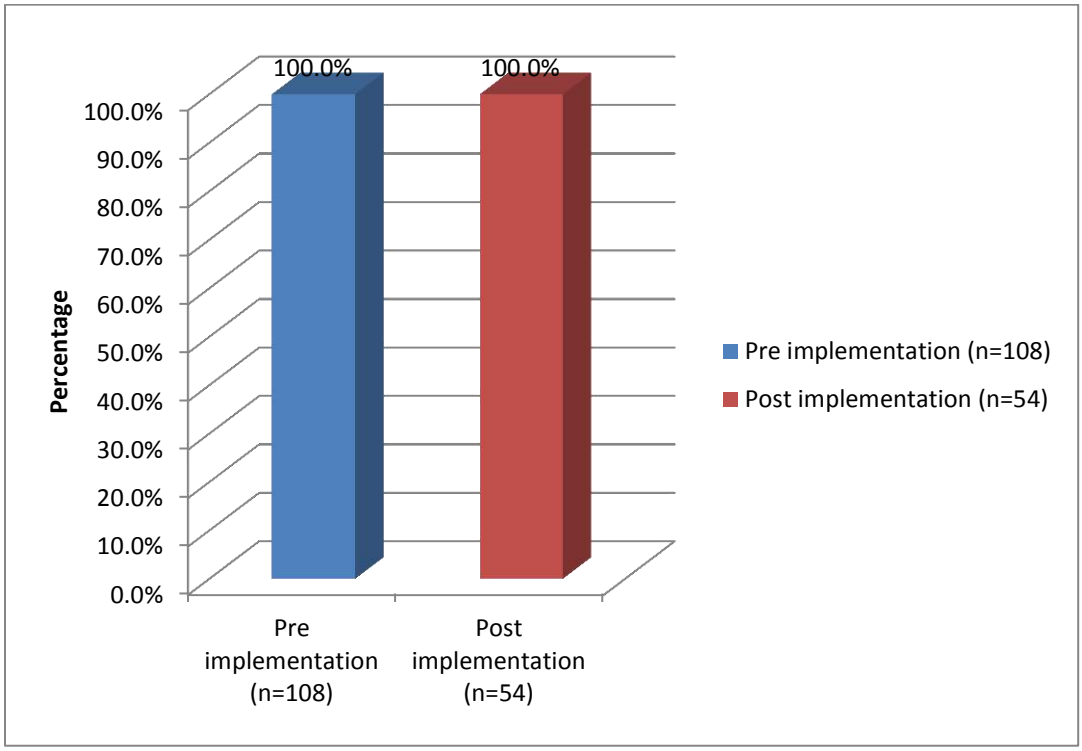

FIGURE 22: DISTRIBUTION OF PATIENTS ACCORDING TO APPROPRIATE DOSAGE IN BOTH THE PHASES

TABLE 28: DISTRIBUTION OF THE PATIENTS ALREADY RECEIVING ANTIBIOTICS FROM OUTSIDE IN BOTH PHASES

Already receiving broad spectrum antibiotics prior to admission	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
NO	107	99.1%	41	75.9%	148
YES	1	0.9%	13	24.1%	14

In pre-implementation phase, only 1 patient was prescribed antibiotics from outside i.e.0.9% but in post-implementation phase 24.1% patients were prescribed antimicrobials prior to admission**.**

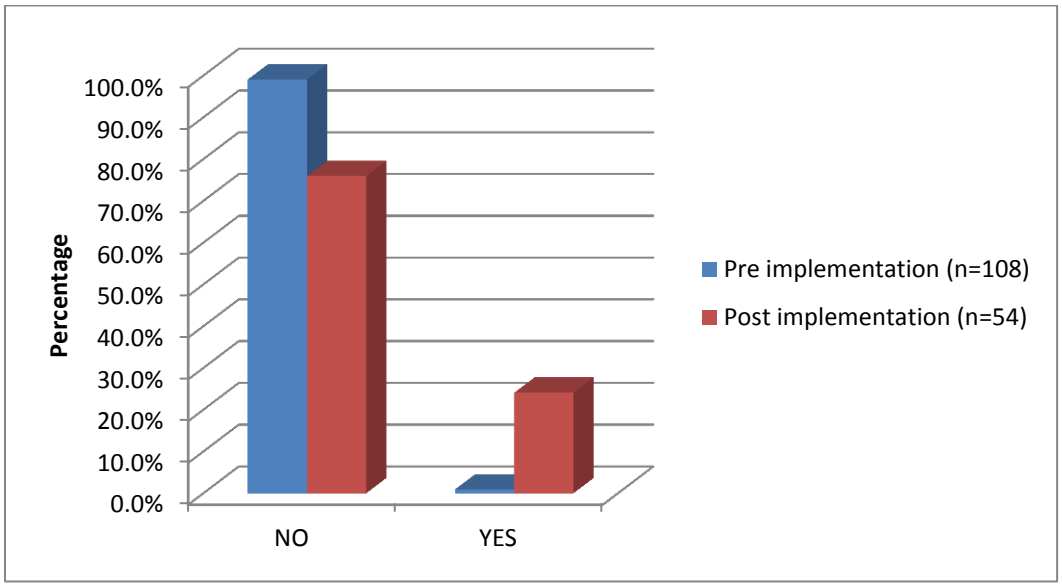

FIGURE 23: DISTRIBUTION OF THE PATIENTS ALREADY RECEIVING ANTIBIOTICS FROM OUTSIDE IN BOTH PHASES

TABLE 29: DISTRIBUTION OF PATIENTS ACCORDING TO OUTCOME IN BOTH THE PHASE

Outcome	GROUP				Total
	Pre implementation (n=108)		Post implementation (n=54)		
DAMA	15	13.9%	7	13.0%	22
DIED	3	2.8%	7	13.0%	10
IMPROVED	90	83.3%	40	74.1%	130

In this study, 83.3% of patients improved in pre-implementation phase, 74.1% of patients improved in post-implementation phase. Percentage of patients expired in pre-implementation phase were 2.8% and in post-implementation phase were 13%.

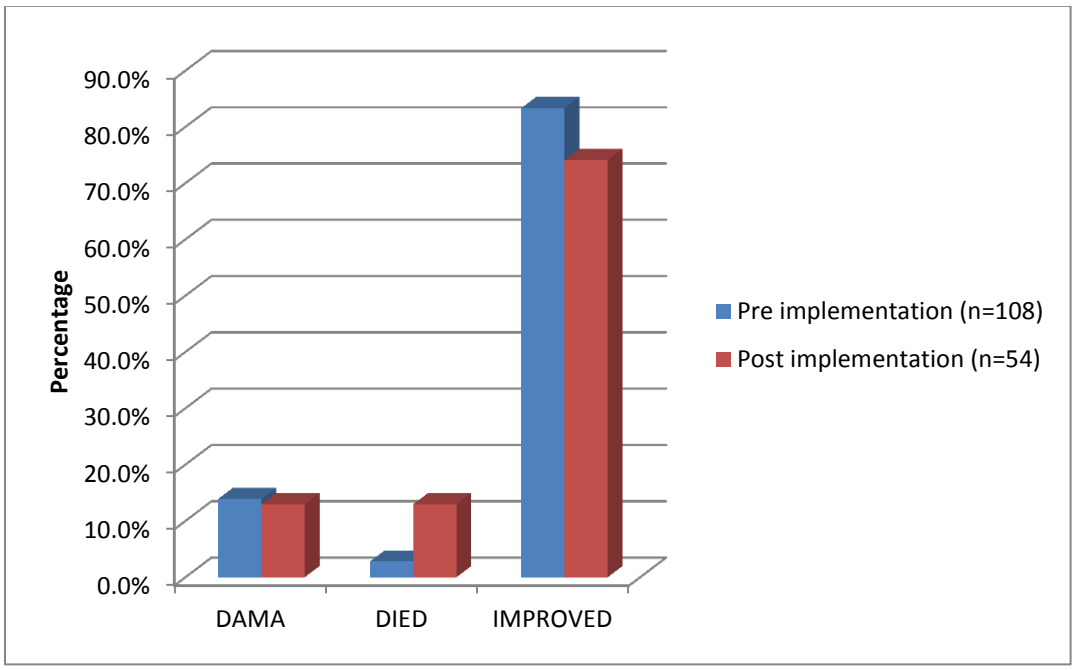

FIGURE 24: DISTRIBUTION OF PATIENTS ACCORDING TO OUTCOME IN BOTH THE PHASES

DISCUSSION

This study was conducted in PICU of Dayanand Medical College and Hospital, Ludhiana. This was prospective Observational study conducted over 11 months i.e. 1st March, 2020 to 31st January, 2021. Total of 108 eligible patients were included in the pre-implementation phase (1st March, 2020 to 30th June 2020) and total 52 eligible patients were included in the post-implementation phase (1st December, 2020 to 31st January, 2021). 5 months period from 1st July, 2020 to 30th November, 2020 was the phase of implementation of Antimicrobial Stewardship Programme. Out of total 108 patients in pre-implementation phase maximum patients i.e. 32 (29.6%) were in the age group of < 1 year age with mean age of 5.98 years. Out of total 52 patients included in post-implementation phase, maximum patients i.e.16 (29.6%) of patients were in age group of < 1 year with mean age of 6.09 years. In study conducted by Jyothi K A et al, maximum numbers of patients were in the age group of more than 28 days to 1 year which constituted 325 (54.16%) cases In another study conducted by Volaki E et al mean age of the admitted population was (54.26 ± 49.93 mo), and the proportion of infants was 28%, and was within the reference values of mean age (3-6yrs or 36-72mo) of PICU patients.[69]

In our study in pre-implementation phase, 67 patients (62%) were males and 41 patients (38%) were females. In the post-implementation phase 43 patients (79.6%) were males and 11 patients (20.4%) were females. Male patients out numbered the female patients in both the phases, similar to the study done by Volaki E et al, the preponderance of male sex (64.6%) in admitted patients in PICU.[70]

In PICU, maximum number of patients admitted i.e. 78.7 % patients in pre-implementation phase and 77.8% patients in post-implementation phase were suffering from Blood stream Infections. In the study done by K. S. Lakshmi et al 73.3% patients admitted in PICU had blood stream infection[71], which is similar to our study. In study done by Bontemps ST et

al, acute lower respiratory tract infection (LRTI) is common in children and in up to 15% of hospitalized cases subsequent referral to a paediatric intensive care unit is necessary.[72] In our study 22.2% patients in pre-implementation phase and 38.9% patients in post-implementation phase were suffering from LRTI.

In PICU, maximum number of patients i.e. 28.7 % admitted in pre-implementation phase were with CNS involvement followed by sepsis (24%). In study conducted by Jyothi K A et al, CNS was the commonest system involved (n=195, 32.5%) in patients admitted in PICU.[69] This result is similar to our study results in pre-implementation phase. In a study conducted by de Souza D C et al, of the 1,090 patients included in their study, 464 had sepsis. The prevalence of sepsis, severe sepsis, and septic shock were 42.6%, 25.9%, and 19.8%, respectively.[73] In another study done by Kapil D et al, the most common cause for admission in PICU was septicemia, seen in 459 patients (14.8%); 418 (13.8%) children had congenital heart disease, 407 (13.5%) lower respiratory tract infections (LRTI) and 261 (8.6%) meningitis.[74] These results are similar to the ones observed in post-implementation phase in our study in PICU.

Most common antibiotic prescribed in PICU in both pre-implementation (45.4%) and post-implementation phase (50%) was Ceftriaxone. In a study conducted by Mali NB et al , Ceftriaxone (49.48%) was the most commonly prescribed antibacterial, while imipenem (2.58%) and colistin (2.06%) use was very low in PICU.[75] In a similar study conducted by Xu JJ et al , the top five classes of antibiotics administered were cephalosporins (43.8%, $n = 1743$), penicillins (13.2%, $n = 526$), carbapenems (8.7%, $n = 347$), nitroimidazoles (7.1%, $n = 281$) and macrolides (6.5%, $n = 257$). The five most commonly used generic antibiotics were cefuroxime (14.9%, $n = 594$), ceftriaxone (9.7%, $n = 387$), cefotaxime (9.0%, $n = 358$), meropenem (8.1%, $n = 320$) and

ampicillin/sulbactam (6.0%, *n* = 239).[76] Although in our study Ceftriaxone was the mostly prescribed antibiotic.

In both pre-implementation and post -implementation phase, maximum number of patients were on single antimicrobial therapy; 41.7 % and 37% respectively. This was followed by dual drug therapy which was 29.6% in pre-implementation phase and 25.9% in post implementation phase. In study conducted by Abbas Q et al, Median number of antibiotic use per patient in PICU was 3, with range of 1–7. 25% received 1 antibiotic, 23% received 2 antibiotics, 29% received 3 antibiotics, and rest received ≥4 antibiotics.[77] In this study maximum patients received 3 antibiotics unlike in our study where mostly 1 antibiotic was prescribed to the patients.

In our PICU, in study, the mean of antimicrobials prescribed per patient was 2.28±1.63 in the pre-implementation phase and 2.63±1.84 in post-implementation phase. In similar study conducted by Abbas Q et al, Abbas Q et al, Median number of antibiotic use per patient in PICU was 3.[77] This is similar as observed in our study.

In our study, the median length of PICU stay was 11.14 days in pre-implementation phase and 9.52 days in post- implementation phase. In similar study conducted by Mali NB et al, the average length of PICU stay was 6.15 days (±6.20) [75] This was lesser than that observed in our study. In study conducted by Pollack MM et al, the mean length of stay was 5.0 days (SD 11.1), with a median of 2.0 days.[78]

Most commonly sent cultures in PICU were the blood cultures. Total of 103 blood cultures were sent in pre-implementation phase, out of which 18 i.e. 17.5% cultures came out to be positive. In post- implementation phase 51 blood cultures were sent, out of which 11 i.e. 21.6% came out to be positive. 11 respiratory (BAL) culture were sent in pre-implementation phase, out of which 7 (63.6%)came out to be positive. 17 BAL culture were sent in post-implementation period, out of which 10 (58.8%) came

out to be positive**.** In a study conducted by Putra IW et al, among the cultures sent in PICU patients, the maximum sent cultures were blood cultures 1345 (32%) followed by urine cultures (19%). Among these 37.62% blood cultures were positive, followed by 31.37% pus cultures being positive.[79]

Among the urinary isolates collected in our study, 3 urine cultures were positive for Klebsiella pneumoniae in pre-implementation phase and 3 urine cultures were positive for E.Coli in post-implementation phase. In study done by Putra IW et al, urine culture specimen were dominated with gram negative bacilli (10 species) followed Gram positive bacilli (8 species). The commonest were gram negative bacilli was E. coli.[79] This observation is similar to the one obtained in our study.

Most common organism isolated, In the pre-implementation phase in blood culture were Klebsiella (4.9%), Staphylococcus aureus (3.9%), E.Coli (2.9%) and Salmonella typhi (2.9%), Pseudomonas aeruginosa (1.9%). In the post-implementation phase most common organisms isolated in blood culture were Klebsiella (13.7%), Staphylococcus aureus (2%), Candida ciferrii (2%),Staphylococcus hemolyticus (2%).In the study done by K. S. Lakshmi et al, in blood, predominant isolates were Gram-negative (53.5%); *Klebsiella pneumoniae* (*n* = 21) being the commonest. *Staphylococcus aureus* (*n* = 18) was the most common Gram-positive organism.[71] In study done by Ergül AB et al , among the microorganisms isolated, 195 (60.2%) were Gram-positive bacteria, and 107 (33.0%) were Gram-negative bacteria; 22 (6.8%) were fungi. The most commonly isolated microorganisms were *Coagulase-negative staphylococci* (45.1%), followed by *Klebsiella pneumonia* (14.5%), and *Enterococcus faecalis* (6.5%). Among the fungi, the most common was *Candida albicans* (59.1%), followed by *Candida parapsilosis*.[80]

In the pre-implementation phase, total 11 Respiratory (BAL) cultures were sent, and 7 came out to be positive. In the post-implementation phase,

total 17 Respiratory (BAL) cultures were sent, and 10 came out to be positive. Most common organism isolated in pre-implementation phase was Klebsiella pneumoniae (36.4%), followed by Pseudomonas aeruginosa (27.3%). In post-implementation phase, most common organism isolated was Klebsiella pneumoniae (23.5%), followed by Acinetobacter baumanii (17.6%). In the study done by Putra IW et al, Endotracheal tube (ETT) aspirate culture specimen was dominated with Gram negative bailli (6 species) followed Gram positive bacilli (4 species). The commonest Gram negative bacilli species were Klebsiella pneumoniae and Gram positive bacilli were Staphylococcus haemolyticus.[79]

In our study, pre-implementation phase total 3 organisms were isolated from pus cultures; out of them 1 was gram positive and 2 were gram negative isolates. In post- implementation phase total 4 organisms were isolated from pus cultures; out of them 1 was gram positive and 3 were gram negative isolates. Staphylococcus aureus was the Gram positive organism isolated. Gram negative organisms isolated were Klebsiella pneumoniae and Pseudomonas aeruginosa. In study done by Putra IW et al, Pus/ wound swab culture specimen were dominated with Gram positive bacilli (8 species) followed Gram negative bacilli (5 species). The commonest Gram positive bacilli were Staphylococcus aureus and Gram negative bacilli were Pseudomonas aeruginosa. Over 32 wound positive culture isolate in this study were undertaken from 37 paediatric patients with history surgical site infection.[79]

In pre-implementation phase, total 23 body fluid cultures were sent, out of which 6 came out to be positive. Most common organism isolated in body fluid cultures in pre- implementation period was Staphylococcus aureus (17.4%). In post- implementation phase, total 11 body fluid cultures were sent, out of which 1 came out to be positive. In study done by Putra IW et al Cerebrospinal fluid (CSF) culture was dominated with Gram positive

bacilli (8 species) followed Gram negative bacilli (7 species). The commonest Gram positive bacilli species were Staphylococcus. cohnii and Gram negative bacilli was Acinetobacter baumanii.[79]

In our study, 83.3% of patients improved in pre-implementation phase, 74.1% of patients improved in post-implementation phase. Percentage of patients expired in pre-implementation phase were 2.8% and in post-implementation phase were 13%.In the study done by Jyothi KA et al, Out of the 600 patients admitted to PICU, 168 (28%) patients died. 315 (52.5%) cases improved. 117 (19.5%) cases constituted those who were shifted to higher centre or another department or were taken against medical advice.[69]

In PICU, in pre-implementation phase, according to system involvement, 31 (28.7%) patients were admitted under CNS involvement and 24 (22.2%) patients were admitted with sepsis and 23 patients (21.3%) patients were admitted with involvement of GIT. In post-implementation phase, 15 (27.8%) patients were admitted with sepsis and 11 patients (20.4%) patients were admitted under CNS involvement. Respiratory system involvement was seen in 17.6% patients in pre-implementation phase and 18.5% patients in post-implementation phase. In a study done by Shandil A et al, the distribution of systems involved at the time of admission in pre-implementation phase was , Respiratory illness was the commonest (n=56, 56%) followed by CNS (n=24, 24.2%), sepsis (n=8, 8.1%), skin and soft tissue involvement (n=6, 6.1%) and GIT (n=4, 4%)and cardiovascular system (n=3, 3%). The distribution of systems involved at time of admission in post-implementation phase, was tropical illnesses/sepsis was commonest (n=32, 36%) followed by respiratory (n=28, 31.5%), CNS (n=21, 23.6%), GI (n=9, 10%), skin and soft tissue involvement (n=5, 5.6%) and cardiovascular system (n=2, 2.2%).[81]

In PICU, the frequency of appropriateness of starting and upgradation of antimicrobials was noted in 69.4% of patients in pre-implementation phase

and in 74.1% of patients in post-implementation phase .Thus, the frequency of appropriateness of antimicrobials improved in post-implementation period. In study done by Shandil A et al , the proportion of inappropriate antibiotic use of 16% in pre-intervention phase was reduced significantly to 1% in post ASP phase (p=0.001). Similarly the frequency of inappropriate dose in post intervention phase was also reduced significantly. (3% to 1 %; P=0.001)[76]. Similarly in our study, inappropriate use decreased and appropriateness of antimicrobials increased in post-implementation phase.

In our PICU, in both pre-implementation phase and post-implementation phase, appropriate drug dosages were given. In study done by Shandil et al, the frequency of inappropriate dose in post intervention phase was also reduced significantly. (3% to 1 %; P=0.001).[81]

In our PICU, in both pre-implementation and post implementation phase, no physician discretion was observed while prescribing the antimicrobials. In a study done on physicians by Wester CW et al, only 60% physicians favored restricting use of broad-spectrum antibiotics even after being educated about the Antimicrobial Resistance. In our study on contrary, no physician discretion was observed in both the phases.[82]

In our PICU, only 1 (0.9%) patient was already on antibiotics before admission in pre-implementation phase while 13 (24.1%) patients were on antibiotics before admission in post-implementation phase. In study conducted by Pedersen G et al, Antibiotics had been prescribed to 14% of the patients during the 30 days before admission and to 37% during the 6 months. But in our study this factor has not caused any significant impact on rational prescription of antimicrobials.[83]

SUMMARY & CONCLUSION

This study was conducted over period of 11 months i.e. 1st March, 2020 to 31st January, 2021 in PICU of Dayanand Medical College and Hospital, Ludhiana.

Total of 108 patients were included in the pre-implementation phase (1st March,2020 to 30th June 2020) and total 52 patients were included in the post-implementation phase (1st December,2020 to 31st January, 2021). 5 months phase from 1st July, 2020 to 30th November, 2020 was the period of implementation of Antimicrobial Stewardship Programme in which doctors in PICU were trained and guided to implement Antimicrobial Stewardship Programme.

Most of patients belonged to age group of < 1 year age in both phases. Mean age of 5.98 years in pre-implementation phase and 6.09 years in post-implementation phase.

Male patients out numbered female patients in both the phases – pre and post implementation.

Blood stream infections were the most common infections in both pre-implementation phase and post- implementation phase.

Most common drug prescribed was Ceftriaxone in both pre-implementation phase and post- implementation phase. This was followed by Vancomycin and then Meropenem in both the phases. Most frequently prescribed fixed drug combination was Cefepime and Tazobactam. Most common antifungal prescribed was Fluconazole in pre- implementation phase and Voriconazole in post- implementation phase.

Maximum number of patients in both phases of AMS implementation were given single antibiotic. Mean total number of antibiotics prescribed per patient was 2.28±1.63 in the pre-implementation phase and 2.63±1.84 in post-implementation phase.

Median length of stay in PICU was 11.14 days in pre-implementation period and 9.52 days in post- implementation phase. Mean length of stay in PICU reduced post-implementation.

Rate of culture positivity increased in the post- implementation phase as compared to pre - implementation phase.

Most common organism isolated from blood was Klebsiella pneumoniae in pre-implementation phase and post -implementation phase. Most common organism obtained from respiratory (BAL) specimen was Klebsiella pneumoniae in both the phase. Most common organism isolated from Pus culture was Staphylococcus aureus in pre-implementation phase and Staphylococcus aureus along with Klebsiella pneumoniae in post-implementation phase . In body fluid cultures, gram positive organisms as Staphylococcus aureus were more in pre-implementation phase and in post implementation phase gram negative organism as Klebsiella pneumoniae was more common.

Most of the patients were admitted with underlying CNS problem in pre-implementation phase and with sepsis in post-implementation phase.

Recovery of patients was 83.3% in pre-implementation phase and 74.1% in post-implementation phase. Mortality rate increased from 2.8% in pre-implementation phase to 13% in in post-implementation phase.

Appropriateness of starting and upgradation of antimicrobials was to be 69.4% in pre-implementation phase and 74.1% in post- implementation phase. The improvement in percentage of appropriate antimicrobial implementation was observed but comparison did not prove to be statistically significant with the p-value of 0.540.

Although appropriateness led to improvement in rational antimicrobial prescription in PICU but due to lesser number of admissions during COVID -19 pandemic, the sample size was not large enough. This may be

a major factor because of which implementation of Antimicrobial Stewardship Programme could not demonstrate a statistically significant impact on appropriateness of antimicrobial prescription.

All the antimicrobials were prescribed in appropriate dosages in both pre and post-implementation phases.

Most of patients were given first antimicrobial after admission to hospital and were not on any antimicrobials before the time of admission in both pre and post- implementation phase.

No physician discretion was noticed during the whole period of study while prescribing the antimicrobials.

In order to decrease the developing resistance to antimicrobials, the use of antimicrobials should be kept under constant supervision, and should always be given in appropriate dose and for appropriate duration as indicated by Antimicrobial Stewardship Programme.

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								INVESTIGATION																
Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
1	908499	3 MONTHS	FEMALE	01-03-2020	17-03-2020	SEPSIS WITH RIGHT SIDED HYDROPNEUMOTHORAX with pleural fluid C/S positive for MRSA with Anemia with Hypovitaminosis D	RESPIRATORY	9.8	58	84.4	11	1.5	0	668	0.26	32	39	256.29	PLEURAL FLUID C/S: MRSA, Staphylococcus aureus	NOT SENT	-	NOT SENT	-	NOT SENT
2	908588	15 YEARS	FEMALE	01-03-2020	25-04-2020	K/C/O CEREBRAL PALSY WITH ACUTE BRONCHOPNEUMONIA	RESPIRATORY	11.5	2.9	66.1	23.3	10.5	0	235	1.45	68	23	130.18	BLOOD C/S : E.COLI, BAL C/S : KLEBSIELLA PNEUMONIAE, PSEUDOMONAS AERUGINOSA	NOT SENT	-	SENT	E.COLI	SENT
3	904993	5 MONTHS	MALE	02-03-2020	13-03-2020	ACUTE BRONCHOPNEUMONIA WITH ? ASPIRATION PNEUMONIA WITH RESPIRATORY FAILURE WITH POST CPR SURVIVOR WITH SHOCK WITH SEPSIS WITH BLOOD C/S POSITIVE CANDIDA WITH GLOBAL DEVELOPMENTAL DELAY WITH SPINAL MUSCLE ATROPHY WITH CUSHINGOID FEATURES	RESPIRATORY	13.1	12	69.5	20.2	10.3	0	432	0.14	193	275	1.68	BLOOD C/S : CANDIDA PEDICULLOSA	NOT SENT	-	SENT	CANDIDA PEDICULLOSA	NOT SENT
4	909534	3 MONTHS	MALE	03-03-2020	06-03-2020	REFRACTORY SEIZURES	CNS	10.1	15	23.6	64.2	10.6	1.3	362	0.26	35	24	100.83	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
5	910304	1 YEAR	MALE	04-03-2020	06-03-2020	MENINGOENCEPHALITIS WITH MACROGLOSSIA WITH HEMIHYPERTROPHY	CNS	7.7	19	21.9	67.8	9.5	0	354	0.38	-	-	0.76	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
6	910969	1 YEAR	MALE	04-03-2020	16-03-2020	ACUTE BRONCHOPNEUMONIA WITH SEVERE ANEMIA WITH SEVERE RESPIRATORY DISTRESS WITH PANCYTOPENIA WITH PROTEIN ENERGY MALNUTRITION GRADE 3 WITH GLOBAL DEVELOPMENTAL DELAY	RESPIRATORY	1.9	0.7	14.1	84.4	0.9	0.1	34	0.41	404	121	57.2	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
7	910683	4 MONTH 15 DAYS	MALE	04-03-2020	12-03-2020	ACUTE VIRAL MYOCARDITIS WITH CONGESTIVE CARDIAC FAILURE, WITH ACUTE BRONCHOPNEUMONIA WITH VIRAL MYOCARDITIS	CVS	10.7	14	29.5	64.6	5.5	0.1	250	0.43	37	23	0.01	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
8	911052	5 YEARS	FEMALE	05-03-2020	12-04-2020	LANDRY GUILLIAN BARRE SYNDROME WITH RESPIRATORY FAILURE WITH TRACHEOSTOMY IN-SITU	CNS	10.9	9.1	73.2	23.4	2.9	0	306	0.42	-	-	16.56	BLOOD C/S : NO GROWTH, CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
9	911619	5 YEARS	FEMALE	05-03-2020	14-03-2020	NEWLY DIAGNOSED T- CELL LYMPHOMA	SEPSIS	8.9	14	65	23.9	10.1	0.7	436	0.99	43	6	-	PLEURAL FLUID C/S: NO GROWTH, BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
10	912913	15 YEARS	MALE	08-03-2020	21-03-2020	ROADSIDE ACCIDENT WITH MILD TRAUMATIC BRAIN INJURY WITH FEMUR FRACTURE WITH CERVICAL SPINE FRACTURE	CNS	12.8	19	74.5	14.4	10.1	0.9	325	0.4	-	-	26.55	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
11	912476	17 YEARS	MALE	08-03-2020	13-03-2020	TUBERCULAR MENINGITIS WITH DISSEMINATED TUBERCULOSIS WITH RESPIRATORY FAILURE WITH HYPOVITAMINOSIS D WITH FAILURE TO THRIVE	CNS	8.7	8.7	75.8	13.4	10.7	0	160	-	31	32	-	CSF C/S:NO GROWTH, BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
12	913028	13 YEAR	FEMALE	09-03-2020	21-03-2020	A/H/O ORGANOPHOSPHORUS COMPOUND POISOSNING WITH RESPIRATORY FAILURE WITH SEPSIS WITH BAL C/S POSITIVE FOR KLEBSIELLA WITH DEPRESSION	RESPIRATORY	13.1	17	-	3.8	2	0	290	0.56	45	23	-	BAL C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	NOT SENT	-	BAL C/S
13	913962	8 MONTHS	MALE	10-03-2020	13-03-2020	K/C/O DOWN SYNDROME WITH AVSD WITH SEPSIS WITH ? NECROTIZING PNEUMONITIS WITH RESPIRATORY FAILURE WITH PULMONARY HEMORRHAGE WITH SEVERE ARDS WITH SEVERE PAH WITH DIC WITH MODS WITH HYPOTHYROIDISM WITH CATECHOLAMNIE RESISTANT SHOCK	RESPIRATORY	9.8	13	84	8.7	6.8	0.2	150	0.47	43	18	7.76	BLOOD AND BAL C/S: NO GROWTH	NOT SENT	-	SENT	-	BAL C/S
14	914812	8 YEAR	MALE	12-03-2020	12-03-2020	C/O DOMESTIC FALL WITH RESPIRATORY FAILURE WITH SUBCUTANEOUS EMPHYSEMA	CNS	12	9.7	73.7	19.7	6.4	0	192	0.41	33	21	-	-	NOT SENT	-	NOT SENT	-	NOT SENT
15	713075	16 YEAR	FEMALE	12-03-2020	14-03-2020	K/C/O TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KETOACIDOSIS WITH ACUTE KIDNEY INJURY WITH RESPIRATORY FAILURE WITH SEVERE ACUTE RESPIRATORY DISTRESS SYNDROME WITH PULMONARY EDEMA	RENAL	12.9	7.7	65.1	25.4	9.2	0	140	1.09	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
16	915993	12 YEAR	FEMALE	02-03-2020	18-03-2020	TOXIC SHOCK SYNDROME WITH ACUTE RESPIRATORY DISTRESS SYNDROME WITH RESPIRATORY FAILURE	SEPSIS	9.9	27	87.8	2.2	10	0	130	2.2	46	53	387.69	BLOOD : NO GROWTH, BAL C/S : ACINETOBACTER BAUMANNI	NOT SENT	-	SENT	-	BAL C/S
17	909536	6 YEAR	MALE	13-03-2020	26-03-2020	PATENT DUCTUS ARTERIOSUS WITH INFECTIVE ENDOCARDITIS WITH PERICARDIAL EFFUSION WITH MRSA WITH ACUTE RENAL INJURY	CVS	7.9	11	71.6	17.2	9.7	1.4	427	1.12	34	44	176.27	BLOOD C/S: MRSA, PLEURAL FLUID C/S: STAPH AUREUS, URINE C/S: NO GROWTH	NOT SENT	-	SENT	STAPHYLOCOCCUS AUREUS (MRSA)	NOT SENT
18	910575	8 YEAR	MALE	04-03-2020	25-03-2020	ACUTE NECROTIZING BRONCHOPNEUMONIA WITH MODERATE PERICARDIAL EFFUSION WITH PER CUTANEOUS DRAIN IN-SITU WITH RESPIRATORY DISTRESS WITH HYDROPNEUMOTHORAX	RESPIRATORY	9.7	31	86.5	6.7	4.5	2.1	120	0.26	226	127	250.7	BLOOD, PERICARDIAL FLUID,STOOL C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
19	916573	1 YEAR	MALE	14-03-2020	20-03-2020	ACUTE LARYNGPTRACHEOBRONCHITIS WITH UNDERLYING MULTITRIIGER WHEEZE	RESPIRATORY	10	6.4	68.8	22.5	8.6	0	189	0.19	35	23	153.74	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
20	916726	7 YEAR	FEMALE	15-03-2020	21-03-2020	A/H/O DOMESTIC FALL	CNS	11.7	12	81.6	7.5	10.8	0	221	0.47	101	31	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
21	893514	1 MONTH 8 DAYS	FEMALE	16-03-2020	29-03-2020	EXTREME PRETERM BABY WITH RESPIRATORY DISTRESS WITH RESPIRATORY FAILURE WITH SEPSIS	SEPSIS	7.2	11	26.2	57.3	12.2	3.4	541	0.37	-	-	0.25	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
22	917409	9 YEAR	FEMALE	16-03-2020	29-03-2020	LEPTOSPIROSIS WITH ACUTE RESPIRATORY DISTRESS WITH HEPATITIS WITH COAGULOPATHY WITH OBESITY	GIT	9.1	48	88.8	8	3.2	0	478	0.64	128	561	205.58	BLOOD AND CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
23	917006	1 YEAR 8 MONTHS	FEMALE	17-03-2020	29-03-2020	ACUTE BRONCHOPNEUMONIA WITH POST MEASELES WITH LEFT SIDED EMPYEMA	RESPIRATORY	10.1	17	85	8.3	6.6	0	434	0.25	-	-	117.85	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
24	917505	3 YEAR	FEMALE	17-03-2020	26-03-2020	ACUTE EXACERBATION OF MULTITRIGGER WHEEZE WITH PULMONARY ASPERGILLOSIS WITH RSPIRATORY DISTRESS	RESPIRATORY	9.8	29	93.2	4.6	2.1	0	572	0.28	58	18	92.83	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
25	918138	8 MONTHS	FEMALE	18-03-2020	30-03-2020	K/C/O DIAPHRAGMATIC HERNIA WITH CYANOTIC CONGENITAL HEART DISEASE WITH TOF PHYSIOLOGY WITH RESPIRATORY FAILURE	CVS	9	26	65	30	3	2	226	0.54	-	-	-	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
26	918171	11 YEARS	FEMALE	18-03-2020	22-03-2020	ACUTE VIRAL HEPATITIS A WITH HEPATIC ENCEPHALOPATHY GRADE 2 WITH COAGULOPATHY	GIT	12.4	8.2	56.6	32.2	10.4	0.4	242	0.96	1093	1999	1.5	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT

		CULTURES																												
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
1	908499	-	NOT SENT	-	PLEURAL FLUID C/S	STAPHYLOCOCCUS AUREUS (MRSA)	4	1	CEFTRIAXONE	I/V	14 DAYS	400 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	200 MG	SEPSIS	BSI	3	METRONIDAZOLE	I/V	7 DAYS	400 MG	SEPSIS	LRTI	4	ROXITHROMYCIN
2	908588	KLEBSIELLA PNEUMONIA, PSEUDOMONAS AERUGINOSA	NOT SENT	-	NOT SENT	-	6	1	CEFTRIAXONE	I/V	7 DAYS	1500 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	11 DAYS	800 MG	SEPSIS	BSI	3	MEROPENEM	I/V	14 DAYS	1200 MG	BLOOD C/S POSITIVE	BSI	4	AMIKACIN
3	904993	-	NOT SENT	-	NOT SENT	-	5	1	MEROPENEM	I/V	12 DAYS	300 MG	SEPSIS	LRTI	2	VANCOMYCIN	I/V	12 DAYS	200 MG	SEPSIS	LRTI	3	ROXITHROMYCIN	P/O	5 DAYS	40 MG	SEPSIS	LRTI	4	VORICONAZOLE
4	909534	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	5 DAYS	1100 MG	MENINGITIS	BSI	2	ACICLOVIR	I/V	5 DAYS	100 MG	MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
5	910304	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	3 DAYS	1000 MG	MENINGITIS	BSI	2	ACICLOVIR	I/V	3 DAYS	100 MG	MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-
6	910969	-	NOT SENT	-	NOT SENT	-	2	1	CEFEPIME+TAZOBACTAM	I/V	4 DAYS	1700 MG	SEPSIS, PNEUMONIA	LRTI	2	CEFUROXIME	I/V	7 DAYS	600 MG	SEPSIS, PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-
7	910683	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	6 DAYS	500 MG	BRONCHOPNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	911052	-	NOT SENT	-	CSF C/S	-	1	1	CEFTRIAXONE	I/V	14 DAYS	1600 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	911619	-	NOT SENT	-	PLEURAL FLUID C/S	-	2	1	CEFTRIAXONE	I/V	10 DAYS	1200 MG	SEPSIS	LRTI	2	FLUCONAZOLE	P/O	7 DAYS	120 MG	THROMBOCYTOPENIA , SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-
10	912913	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	14 DAYS	2000 MG	SEPSIS	SSTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	912476	-	NOT SENT	-	CSF C/S	-	1	1	CEFTRIAXONE	I/V	3 DAYS	2000 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	913028	KLEBSIELLA PNEUMONIA	NOT SENT	-	NOT SENT	-	2	1	CEFOPERAZONE+SULBACTAM	I/V	7 DAYS	4000 MG	PNEUMONIA	LRTI, VAP	2	CEFEPIME+TAZOBACTAM	I/V	6 DAYS	4000 MG	BAL C/S POSITIVE	VAP	-	-	-	-	-	-	-	-	-	-
13	913962	-	NOT SENT	-	NOT SENT	-	3	1	CEFTRIAXONE	I/V	4 DAYS	1200 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	4 DAYS	400 MG	SEPSIS	BSI	3	VORICONAZOLE	I/V	3 DAYS	120 MG	? ASPERGILLOSIS	LRTI	-	-
14	914812	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	1 DAY	2000 MG	SEPSIS	SSTI,BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	713075	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	3 DAYS	2000 MG	SEPSIS	?BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	915993	ACINETOBACTER BAUMANII	NOT SENT	-	NOT SENT	-	4	1	MEROPENEM	I/V	14 DAYS	3000 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	2000 MG	SEPSIS	BSI	3	AZITHROMYCIN	P/O	7 DAYS	300 MG	PNEUMONIA	LRTI	4	FLUCONAZOLE
17	909536	-	NOT SENT	-	PLEURAL FLUID C/S	STAPHYLOCOCCUS AUREUS (MRSA)	4	1	PIPERCALLIN+TAZOBATAM	I/V	7 DAYS	6000 MG	SEPSIS	BSI	2	AMIKACIN	I/V	7 DAYS	300 MG	SEPSIS	BSI	3	DAPTOMYCIN	I/V	14 DAYS	100 MG	BLOOD C/S POSITIVE	BSI	4	TEICOPLANIN
18	910575	-	NOT SENT	-	PERICARDIAL FLUID, STOOL C/S	-	3	1	PIPERCALLIN+TAZOBATAM	I/V	19 DAYS	8500 MG	PNEUMONIA	LRTI	2	VANCOMYCIN	I/V	13 DAYS	1100 MG	SEPSIS	BSI	3	CEFUROXIME	I/V	7 DAYS	1500 MG	BRONCHOPNEUMONIA	LRTI	-	-
19	916573	-	NOT SENT	-	NOT SENT	-	2	1	CEFUROXIME	I/V	5 DAYS	1200 MG	BRONCHITIS	LRTI	2	AZITHROMYCIN	P/O	5 DAYS	100 MG	BRONCHITIS	LRTI	-	-	-	-	-	-	-	-	-	-
20	916726	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	5 DAYS	1500 MG	SEPSIS	SSTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	893514	-	NOT SENT	-	NOT SENT	-	5	1	CEFOTAXIM	I/V	4 DAYS	350 MG	SEPSIS	LRTI	2	AMIKACIN	I/V	4 DAYS	27 MG	SEPSIS	LRTI	3	AZITHROMYCIN	P/O	7 DAYS	18 MG	PNEUMONIA	LRTI	4	MEROPENEM
22	917409	-	NOT SENT	-	CSF C/S	-	7	1	CEFOTAXIM	I/V	8 DAYS	4000 MG	SEPSIS	BSI	2	AZITHROMYCIN	P/O	5 DAYS	400 MG	SEPSIS	BSI	3	ACICLOVIR	I/V	6 DAYS	1200MG	? MENINGITIS	BSI	4	CEFEPIME+TAZOBACTAM
23	917006	-	NOT SENT	-	NOT SENT	-	4	1	VANCOMYCIN	I/V	7 DAYS	360 MG	PNEUMONIA	LRTI	2	PIPERACILLIN+TAZOBACTAM	I/V	7 DAYS	2700 MG	PNEUMONIA	LRTI	3	CEFUROXIME	I/V	8 DAYS	1400 MG	PNEUMONIA	LRTI	4	NETILMICIN
24	917505	-	NOT SENT	-	NOT SENT	-	4	1	AZITHROMYCIN	P/O	6 DAYS	120 MG	? PNEUMONIA	LRTI	2	CEFUROXIME	I/V	7 DAYS	1200 MG	P? PNEUMONIA	LRTI	3	NETILMICIN	I/V	7 DAYS	90 MG	SEPSIS	BSI	4	VORICONAZOLE
25	918138	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	10 DAYS	700 MG	? PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	918171	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	4 DAYS	3000 MG	SEPSIS	BSI?IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																	
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
1	908499	P/O	5 DAYS	30MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	908588	I/V	18 DAYS	300 MG	BLOOD C/S POSITIVE	BSI	5	COLISTIN	I/V	15 DAYS	15,000 MU	BAL C/S POSITIVE	VAP	6	AMOXICILLIN +CLAVULINIC ACID	I/V	12 DAYS	1000 MG	BAL C/S POSITIVE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	904993	I/V	5 DAYS	60 MG	SEPSIS	BSI	5	ACICLOVIR	I/V	6 DAYS	180MG	SEPSIS	BSI	6	ACICLOVIR	I/V	-	-	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	909534	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	910304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	910969	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	910683	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	911052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	911619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	912913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	912476	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	913028	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	913962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	914812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	713075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	915993	I/V	10 DAYS	200 MG	FUNGAL SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	909536	I/V	16 DAYS	200 MG	PLEURAL FLUID C/S POSITVE	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	910575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	916573	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	916726	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	893514	I/V	10 DAYS	100 MG	SEPSIS	BSI	5	VANCOMYCIN	I/V	10 DAYS	36 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	917409	I/V	6 DAYS	4000 MG	SEPSIS	BSI	5	AMIKACIN	I/V	5 DAYS	600 MG	SEPSIS	BSI	6	DOXYCYCLINE	I/V	4 DAYS	200 MG	LEPTOSPIROSIS	BSI,IAI	7	MEROPENEM	I/V	2 DAYS	2500 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-
23	917006	I/V	8 DAYS	60 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	917505	I/V	3 DAYS	40 MG	ASPERGILLOSIS	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	918138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	918171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
1	908499	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
2	908588	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
3	904993	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
4	909534	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
5	910304	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
6	910969	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
7	910683	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
8	911052	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
9	911619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
10	912913	-	-	-	-	-	-	-	-	YES	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
11	912476	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
12	913028	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
13	913962	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
14	914812	-	-	-	-	-	-	-	-	YES	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
15	713075	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
16	915993	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
17	909536	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
18	910575	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
19	916573	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
20	916726	-	-	-	-	-	-	-	-	YES	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
21	893514	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
22	917409	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
23	917006	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
24	917505	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
25	918138	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
26	918171	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES

Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	INVESTIGATION															
								HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
27	918736	8 YEARS	FEMALE	18-03-2020	25-03-2020	ACUTE MENINGOECEPHALITIS WITH COMPLICATED ENETERIC FEVER	GIT	9.9	2.7	70.6	27.5	1.6	0	30	0.38	187	53	133.23	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
28	918759	8 MONTHS	MALE	18-03-2020	21-03-2020	C/O DOMESTIC FALL WITH EXTRA DURAL HEMORRHAGE WITH MIDLINE SHIFT POST EXTRA VENTRICULAR DRAIN	CNS	5.6	14	62.2	29.1	8.2	0.2	434	0.26	33	27	-	-	NOT SENT	-	NOT SENT	-	NOT SENT
29	918657	4 YEAR	FEMALE	19-03-2020	27-03-2020	C/O LOBAR PNEUMONIA WITH RESPIRATORY FAILURE	RESPIRATORY	10.1	9.4	78.5	17.5	3.4	0	524	0.3	519	297	101.34	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
30	919270	1 YEAR 11 MONTHS	MALE	19-03-2020	08-05-2020	C/O 45% BURNS WITH RESPIRATORY FAILURE WITH SEPTIC SHOCK WITH AKI WITH SEPTIC MYOCARDITIS WITH DIC WITH PURPURA FULMINANS WITH EXCISION AND SPLIT THICKNESS GRAFTING WITH DIVERSION COLOSTOMY WITH SUBGLOTTIC STENOSIS WITH TRACHEOSTOMY IN-SITU	SEPSIS	8.3	5	50	45	3	2	80	1.65	59	24	-	BLOOD C/S: PSEUDOMONAS AERUGINOSA , KLEBSIELLA PNEUMONIAE, ACINETOBACTER,WOUND C/S: PSUDOMONAS AND KLEBSIELLA PNEUMONIAE,URINE C/S:KLEBSIELLA PNEUMONIAE.	SENT	KLEBSIELLA PNEUMONIAE	SENT	PSEUDOMONAS AERUGINOSA,KLEBSIELLA PNEUMONIAE,ACINETOBACTER BAUMANII	NOT SENT
31	919679	6 MONTHS	MALE	20-03-2020	24-03-2020	?IEM WITH RAISED INTRACRANIAL PRESSURE WITH TONSILAR HERNIATION WITH POST CARDIOPULMONARY RESUSCITATION SURVIVOR WITH SHOCK WITH DIABETES INSIPIDUS WITH BRAINSTEM DEATH	CNS	10	46	61.8	29.6	7.9	0.4	371	0.79	69	20	0.1	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
32	919718	7 YEAR	FEMALE	21-03-2020	10-04-2020	C/O REFRACTORY SEIZURES WITH ADEM WITH RESPIRATORY FAILURE WITH ANEMIA WITH HYPOVITAMINOSIS D	CNS	11.1	12	88.9	8.9	1.4	0	320	0.55	22	10	4.38	BLOOD C/S : NO GROWTH, BAL C/S : PSEUDOMONAS AND KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	-	BAL C/S
33	920006	11 YEARS	FEMALE	22-03-2020	29-03-2020	COMPLICATED TYPHOID FEVER WITH ENCEPHALOPATHY WITH THROMBOCYTOPENIA WITH BLOOD C/S POSITIVE FOR SALMONELLA TYPHI	GIT	9.5	7.2	72.4	18.3	9.2	0.1	22	0.53	368	86	134.09	BLOOD C/S: SALMONELLA TYPHI	NOT SENT	-	SENT	SALMONELLA TYPHI	NOT SENT
34	920040	13 YEAR	MALE	22-03-2020	29-03-2020	ACUTE VIRAL HEPATITIS E WITH HEPATIC ENCEPHALOPATHY GRADE 3 WITH COAGULOPATHY WITH DYSELECTROLYTEMIA	GIT	13.2	18	58.6	30	10.4	0.6	289	0.88	4047	4223	21.88	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
35	920137	9 MOTHS	MALE	23-03-2020	17-04-2020	ACUTE DIARRHOEAL DISEASE WITH SEVERE DEHYDRATION WITH RESPIRATORY FAILURE WITH CENTRAL VENOUS SINUS THROMBOSIS WITH SEIZURES WITH DYSELECTROLYTEMIA	GIT	6.8	9.2	64.2	20.3	6.7	0.1	76	0.69	163	146	0.46	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
36	800480	7 YEARS	MALE	25-03-2020	05-05-2020	FALL FROM HEIGHT WITH SEVERE TRAUMATIC BRAN INJURY WITH RESPIRATORY FAILURE WITH EXTRA VENTRICULAR DRAIN IN-SITU WITH SEPSIS	CNS	12.6	7.3	70.9	18.5	10.2	0.1	583	0.44	29	13	23.86	BLOOD C/S : NO GROWTH, BAL C/S : ACINETOBACTER BAUMANII, CSF C/S: STAPHYLOCOCCUS EPIDERMIDIS	NOT SENT	-	SENT	-	BAL C/S
37	920434	12 YEARS	MALE	26-03-2020	30-03-2020	C/O ACCIDENTAL DROWNING WITH PULMONARY EDEMA WITH RESPIRATORY FAILURE WITH HYPOTENSIVE SHOCK WITH PROTEIN ENERGY MALNUTRITION GRADE 2	RESPIRATORY	12.4	32	78.7	16	4.4	0.8	386	0.56	73	32	2	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
38	920521	3 MONTHS	MALE	15-03-2020	17-03-2020	C/O ACUTE DIARRHOEAL DISEASE WITH HYPERNATREMIC DEHYDRATION WITH RESPIRATORY FAILURE	GIT	8.6	14	26.4	63	9.2	0.9	401	0.38	64	61	0.58	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
39	920152	14 YEAR	MALE	28-03-2020	10-04-2020	C/O LIVER ABSCESS WITH PLEURAL EFFUSION WITH RESPIRATORY DISTRESS WITH SEPTIC SHOCK	GIT	8.1	18	87.5	27	3.8	0.6	206	0.77	27	32	339.43	BLOOD C/S, PERITONEAL FLUID C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
40	920730	11 MONTHS	FEMALE	30-03-2020	04-04-2020	ACUTE LARYNGOTRACHEOBRONCHITIS WITH UNDERLYING MULTI TRIGGER WHEEZE WITH ANEMIA WITH HYPOVITAMINOSIS D	RESPIRATORY	7.9	19	43.8	43.1	8.9	3.8	570	0.28	31	23	0.1	BLOOD C/S: STAPHYLOCOCCUS EPIDERMIDIS	NOT SENT	-	SENT	-	NOT SENT
41	920803	6 MONTHS	FEMALE	30-03-2020	04-04-2020	ACUTE DIARRHOEAL DISEASE WITH SEVERE DEHYDRATION WITH RESPIRATORY FAILURE WITH ACUTE KIDNEY INJURY WITH STATUS EPILEPTICUS	GIT	10	8.1	54.3	34.6	10.7	0.1	125	1.81	39	54	0.75	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	STAPHYLOCOCCUS EPIDERMIDIS	NOT SENT
42	877949	10 YEAR	MALE	31-03-2020	01-05-2020	LANDRY GUILLIAN BARRE SYNDROME WITH RESPIRATORY FAILURE WITH TRACHEOSTOMY IN-SITU	CNS	9.9	26	59.9	30	8.7	0.7	519	0.32	23	23	113.35	BLOOD C/S: NO GROWTH, BAL C/S : PSEUDOMONAS AERUGINOSA	NOT SENT	-	SENT	-	BAL C/S
43	913161	16 YEARS	MALE	31-03-2020	21-04-2020	NEWLY DIAGNOSED ACUTE MYELOID LEUKEMIA WITH FEBRILE NEUTROPENIA ON INDUCTION WITH SEPSIS	SEPSIS	9.4	0.3	2.8	96.8	0.4	0	10	0.83	22	48	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
44	920218	5 MONTHS	MALE	01-04-2020	01-04-2020	ACUTE HEPATIC FAILURE WITH DEVELOPMENTAL DELAY WITH ? IEM? GLYCOGEN STORAGE DISORDER ? POMPE'S DISEASE WITH COAGULOPATHY WITH TRANSAMNITIS WITH HYPOGLYCEMIA WITH MEGALOBLASTIC ANEMIA	GIT	7.2	9.3	39	54.8	4.4	1.7	382	0.27	264	64	0.79	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
45	920464	17 YEARS	MALE	01-04-2020	19-04-2020	TRANSFUSION DEPENEDENT THALASSEMIA MAJOR WITH HEMOSIDEROSIS WITH CARDIOGENIC SHOCK WITH DIABETES MELLITUS WITH RESPIRATORY DISTRESS PERICARDIAL EFFUSION	CVS	09:06	13	82.9	11.3	5	0.6	200	0.46	25	26	141.53	BLOOD AND PERICARDIAL FLUID C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
46	920983	1 MONTH 8 DAYS	FEMALE	01-04-2020	05-04-2020	PERTUSIS LIKE ILLNESS WITH RESPIRATORY DISTRESS	RESPIRATORY	8.7	28	43.7	40.7	10.1	5.4	246	0.3	-	-	64.22	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
47	881931	3 YEARS	FEMALE	04-04-2020	10-04-2020	K/C/O KAWASAKI DISEASE WITH NEWLY DIAGNOSED TYPE 1 DIABETES MELLITUS WITH DIABETIC KETOACIDOSIS	SEPSIS	10.2	12	62.1	31.7	4.8	0.8	508	0.57	19	23	0.3	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
48	920830	17 YEARS	MALE	05-04-2020	14-04-2020	ACUTE VIRAL HEPATITIS A WITH PANCREATITIS WITH HEPATITIS WITH B/L PLEURAL EFFUSION WITH RESPIRATORY DISTRESS	GIT	13.4	14	70.6	18.1	10.4	0	275	0.75	823	1243	117.93	BLOOD C/S, URINE C/S : NO GROWTH	SENT	-	SENT	-	NOT SENT
49	921294	17 YEARS	MALE	05-04-2020	11-04-2020	COMPLICATED ENETRIC FEVER WITH COMPENSATED SHOCK	GIT	13.4	2.3	57.2	31.9	10.6	0	162	0.09	51	31	93.75	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
50	844109	7 MONTHS	MALE	06-04-2020	16-04-2020	C/O POLYCYSTIC KIDNEY DISEASE WITH INGUINAL HERNIA WITH HYPOCALCEMIC SEIZURES WITH MENINGITIS	RENAL	11.5	9.4	36	57	6	1	270	3.4	109	44	9.29	BLOOD AND CSF C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
51	920137	9 MONTHS	MALE	07-04-2020	17-04-2020	C/O HYPERNATREMIC DEHYDRATION WITH CENTRAL VENOUS SINUS THROMBOSIS WITH BREAKTHROUH SEIZURES	GIT	10.4	13	39.1	49.5	10.6	0.4	942	0.22	116	149	7.56	BLOOD C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
52	921552	7 YEARS	FEMALE	08-04-2020	14-04-2020	TUBERCULAR MENINGITIS WITH HYPOVITAMINOSIS D WITH FAILURE TO THRIVE WITH ANEMIA	CNS	9.8	16	82	15.4	2.4	0	1162	0.22	19	6	19.54	BLOOD AND CSF C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT

		CULTURES																											
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
27	918736	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	ENTERIC FEVER	IAI	2	ACICLOVIR	I/V	7 DAYS	600 MG	? MENINGOENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-
28	918759	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	3 DAYS	3000 MG	SURGICAL EXPLORATION	SSTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	918657	-	NOT SENT	-	NOT SENT	-	**4**	1	CEFUROXIME	I/V	3 DAYS	1100 MG	PNEUMONIA	LRTI	2	CEFTRIAXONE	I/V	3 DAYS	1100 MG	PNEUMONIA	LRTI	3	AZITHROMYCIN	P/O	5 DAYS	100 MG	PNEUMONIA	LRTI	4	VANCOMYCIN
30	919270	-	SENT	PSEUDOMONAS AERUGINOSA, KLEBSIELLA PNEUMONIAE	NOT SENT	-	**5**	1	MEROPENEM	I/V	21 DAYS	600 MG	BLOOD C/S POSITIVE	BSI	2	VANCOMYCIN	I/V	7 DAYS	400 MG	BLOOD C/S POSITIVE	BSI	3	COLISTIN	I/V	21 DAYS	0.8 MU	BLOOD C/S POSITIVITY	BSI	4	AMIKACIN
31	919679	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFOTAXIM	I/V	5 DAYS	500 MG	MENINGOENCEPHALITIS	BSI	2	ACICLOVIR	I/V	5 DAYS	50 MG	? MENINGOENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-
32	919718	PSEUDOMONAS AERUGINOSA, KLEBSIELLA PNEUMONIAE	NOT SENT	-	NOT SENT	-	**3**	1	CEFTRIAXONE	I/V	10 DAYS	2500 MG	? MENINGITIS	BSI	2	ACICLOVIR	I/V	8 DAYS	800 MG	? MENINGITIS	BSI	3	AZITHROMYCIN	P/O	7 DAYS	200MG	BAL C/S POSITIVITY	VAP	-	-
33	920006	-	NOT SENT	-	NOT SENT	-	**3**	1	CEFTRIAXONE	I/V	7 DAYS	4000 MG	ENTERIC FEVER	BSI	2	VANCOMYCIN	I/V	3 DAYS	1600 MG	ENTERIC FEVER	BSI	3	AZITHROMYCIN	P/O	5 DAYS	400 MG	ENTERIC FEVER	BSI	-	-
34	920040	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	7 DAYS	3600 MG	HEPATITS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	920137	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	8 DAYS	700 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	800480	ACINETOBACTER BAUMANII	NOT SENT	-	CSF C/S	STAPHYLOCOCCUS EPIDERMIDIS	**3**	1	CEFTRIAXONE	I/V	14 DAYS	2500 MG	SURGICAL EXPLORATION	BSI	2	MEROPENEM	I/V	21 DAYS	1500 MG	? MENINGITIS	BSI	3	VANCOMYCIN	I/V	21 DAYS	1000 MG	? MENINGITIS	BSI	-	-
37	920434	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFUROXIME	I/V	5 DAYS	1500MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	920521	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	3 DAYS	300 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	920152	-	NOT SENT	-	PERITONEAL FLUID C/S	-	**2**	1	CEFTRIAXONE	I/V	10 DAYS	4000 MG	SEPSIS	BSI	2	METRONIDAZOLE	I/V	10 DAYS	1200 MG	LIVER ABSCESS	IAI	-	-	-	-	-	-	-	-	-
40	920730	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFUROXIME	I/V	5 DAYS	900 MG	PNEUMONIA	LRTI	2	AZITHROMYCIN	P/O	5 DAYS	90 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-
41	920803	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	5 DAYS	700 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	877949	PSEUDOMONAS AERUGINOSA	NOT SENT	-	NOT SENT	-	**4**	1	CEFTRIAXONE	I/V	14 DAYS	2500 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	1000 MG	SEPSIS	BSI	3	FLUCONAZOLE	P/O	14 DAYS	200 MG	THROMBOCYTOPENIA	BSI	4	LINEZOLID
43	913161	-	NOT SENT	-	NOT SENT	-	**4**	1	CEFTRIAXONE	I/V	14 DAYS	4000 MG	SEPSIS	BSI	2	MEROPENEM	I/V	10 DAYS	2700 MG	SEPSIS	BSI	3	COLISTIN	I/V	14 DAYS	3MU	BLOOD C/S POSITIVE	BSI	4	TIGECYCLINE
44	920218	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	1 DAY	600 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	920464	-	NOT SENT	-	PERICARDIAL FLUID	-	**3**	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	SEPSIS	BSI	2	MEROPENEM	I/V	14 DAYS	2600 MG	PERICARDIAL EFFUSION	BSI	3	VANCOMYCIN	I/V	14 DAYS	1700MG	PERICARDIAL EFFUSION	BSI	-	-
46	920983	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	5 DAYS	300 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	881931	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	5 DAYS	1000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	920830	-	NOT SENT	-	NOT SENT	-	**1**	1	MEROPENEM	I/V	10 DAYS	3000 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	921294	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	ENTERIC FEVER	BSI	2	AZITHROMYCIN	P/O	7 DAYS	500 MG	ENTERIC FEVER	BSI	-	-	-	-	-	-	-	-	-
50	844109	-	NOT SENT	-	CSF C/S	-	**2**	1	MEROPENEM	I/V	10 DAYS	600 MG	? MENINGITIS	BS	2	VANCOMYCIN	I/V	10 DAYS	400 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
51	920137	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFOTAXIM	I/V	8 DAYS	700 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	921552	-	NOT SENT	-	CSF C/S	-	**1**	1	CEFTRIAXONE	I/V	4 DAYS	1300 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																	
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
27	918736	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	918759	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	918657	I/V	3 DAYS	500 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	919270	I/V	7 DAYS	70 MG	URINE C/S POSITIVITY	CAUTI	5	CEFEPIME+TAZOBACTAM	I/V	14 DAYS	1100 MG	BLOOD AND WOUND C.S POSITIVITY	BSI,SSTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	919679	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	919718	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	920006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	920040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	920137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	800480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	920434	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	920521	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	920152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	920730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	920803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	877949	P/O	14 DAYS	500 MG	BAL C/S POSITIVITY	LRTI, VAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	913161	I/V	10 DAYS	500 MG	BLOOD C/D POSITIVE FOR KLEBSIELLA	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	920218	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	920464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	920983	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	881931	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	920830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	921294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	844109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	920137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	921552	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
27	918736	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
28	918759	-	-	-	-	-	-	-	-	YES	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
29	918657	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
30	919270	-	-	-	-	-	-	-	-	YES	-	YES	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
31	919679	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
32	919718	-	-	-	-	-	-	-	-	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
33	920006	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
34	920040	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
35	920137	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
36	800480	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
37	920434	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
38	920521	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
39	920152	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
40	920730	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
41	920803	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
42	877949	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
43	913161	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
44	920218	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
45	920464	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
46	920983	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
47	881931	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
48	920830	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
49	921294	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
50	844109	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
51	920137	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
52	921552	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES

								INVESTIGATION																
Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
53	921306	5 MONTHS	MALE	09-04-2020	22-04-2020	? PRIMARY IMMUNODEFICIENCY WITH PANCYTOPENIA WITH ACUTE KIDNEY INJURY WITH RESPIRATORY FAILURE WITH SEPTIC SHOCK	SEPSIS	11.2	3.6	29.8	68.3	1.6	0.2	40	0.18	204	51	328.5	BLOOD AND URINE AND BAL C/S : NO GROWTH	SENT	-	SENT	-	BAL C/S
54	800480	7 YEAR	MALE	10-04-2020	05-05-2020	FALL FROM HEIGHT WITH SEVERE TRAUMATIC BRAN INJURY WITH RESPIRATORY FAILURE WITH EVD IN-SITU WITH POST CRANIOPLASTY WITH SEPSIS	CNS	9.7	4.7	60.2	26.8	10.7	1.5	509	0.22	29	21	131	BLOOD C/S: NO GROWTH, CSF C/S: STAPHYLOCOCCUS EPIDERMIDIS	NOT SENT	-	SENT	-	NOT SENT
55	922250	5 YEARS	MALE	14-04-2020	23-04-2020	COMPLICATED ENTERIC FEVER WITH TRANSAMNITIS WITH PLEURAL EFFUSION WITH RESPIRATORY DISTRESS	GIT	7.1	8.2	35	60	3	2	100	0.31	334	167	103.57	BLOOD C/S: SALMONELLA TYPHI	NOT SENT	-	SENT	SALMONELLA TYPHI	NOT SENT
56	564970	3 YEARS	FEMALE	15-04-2020	27-04-2020	MENINGITIS	CNS	10.9	7.4	52	38	8	2	382	0.31	24	7	0.26	BLOOD AND CSF C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
57	587987	16 YEAR	MALE	15-04-2020	23-04-2020	C/O CEREBRAL PALSY WITH EPILEPSY WITH RHABDOMYOLYSIS INDUCED AKI WITH HEPATITIS WITH ? AUTOIMMUNE NECPHALITIS	CNS	13.9	7.4	79	9.3	11.2	0.4	140	11.38	1419	1473	25.27	URINE C/S: NO GROWTH	SENT	-	NOT SENT	-	NOT SENT
58	908588	15 YEARS	FEMALE	17-04-2020	25-04-2020	C/O CEREBRAL PALSY WITH TRACHEOSTOMY IN-SITU WITH RESPIRATORY FAILURE WITH FAILURE TO THRIVE	CNS	11.5	2.9	66.1	23.3	10.5	0	235	1.45	68	23	130.18	BLOOD C/S: E.COLI,BAL C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	E.COLI	BAL C/S
59	922794	6 YEAR	FEMALE	17-04-2020	26-04-2020	ACUTE VIRAL HEPATITIS A WITH HEPATIC ENCEPHALOPATHY GRADE 2 WITH COAGULOPATHY	GIT	12.6	9.6	45.2	44.3	10.1	0	301	0.35	4598	4756	11.35	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
60	922980	3 MONTHS	MALE	19-04-2020	07-05-2020	C/O INTUSSUSCEPTION WITH POST OP EXPLORATORY LAPAROTOMY WITH SEPSIS WITH ANEMIA WITH RESPIRATORY FAILURE WITH POST CPR SURVIVOR WITH DURAL VENOUS SINUS THROMBOSIS	GIT	8	5	25.5	63.6	10.5	0.1	323	0.58	29	10	85.11	BLOOD , BAL, SWAB C/S: NO GROWTH	NOT SENT	-	SENT	-	BAL C/S
61	922895	6 YEAR	MALE	20-04-2020	28-04-2020	C/O NEPHROTIC SYNDROME WITH HYDATID CYST IN LUNGS AND LIVER WITH RESPIRATORY FAILURE	RENAL	11.3	11	88.4	4.5	6.7	0.1	620	0.23	-	-	9.94	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
62	755036	9 YEAR	MALE	20-04-2020	25-04-2020	C/O DISSEMINATED TUBERCULOSIS WITH TUBERCULOMA WITH SEIZURES	CNS	12.5	12	65.2	24.4	10.1	0.1	283	0.32	33	53	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
63	923291	2 YEARS	FEMALE	22-04-2020	24-04-2020	ACUTE ENCEPHALITIS WITH RESPIRATORY FAILURE WITH REFRACTORY SEIZURE WITH RHABDOMYOLYSIS	CNS	9.6	13	57.2	31.6	10.8	0.1	253	0.41	71	27	4.78	BLOOD AND CSF C/S : NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
64	923525	12 YEAR	MALE	24-04-2020	25-04-2020	COMPLICATED VARICELLA INFECTION WITH CEREBELLAR ATAXIA WITH ACUTE CEREBELLITIS	CNS	12.8	9.3	68	21.2	7.5	2.8	500	0.42	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
65	923146	4 YEARS	MALE	24-04-2020	01-05-2020	C/O CONGESTIVE HEART FAILURE WITH DIALATED CARDIOMYOPATHY WITH DEVELOPMENTAL DELAY WITH SEVERE PAH WITH MODERATE PERICARDIAL EFFUSION	CVS	8.8	26	66.9	22.1	8.5	0.2	484	0.63	67	31	123.4	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
66	923681	1 MONTH 27 DAYS	MALE	25-04-2020	20-05-2020	INCARCARATED INGUINAL HERNIA WITH UMBILICAL HERNIA WITH SEPSIS WITH SHOCK WITH CONGENITAL HYPOTHYROIDISM WITH DYSMORPHIC FACIES WITH MICROCEPHALY WITH POST CPR SURVIVOR	SEPSIS	8.8	26	47.4	41	10.1	1.1	535	0.19	55	78	6.72	BLOOD C/S: E.COLI, URINE C/S: NO GROWTH	SENT	-	SENT	E.COLI	NOT SENT
67	923796	26 DAYS	MALE	26-04-2020	05-05-2020	HYPERTROPHIC PYLORIC STENOSIS WITH POST EXPLORATORY LAPAROTOMY WITH PYLOROMYOTOMY WITH RESPIRATORY DISTRESS	SEPSIS	9.6	13	45.1	42.3	11	0.9	515	0.39	-	-	38.29	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
68	924308	5 MONTHS	MALE	28-04-2020	04-05-2020	INTUSSUSCEPTION WITH POST-OP SEGEMENTAL ILEAL RESECTION WITH END ILEOSTOMY WITH SEPSIS WITH RESPIRATORY FAILURE	SEPSIS	10.4	9.6	35	54	10.5	0.4	771	0.18	35	26	23.22	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
69	924795	8 YEARS	MALE	02-05-2020	10-05-2020	C/O TYPE 1 DIABETES MELLITU WITH SEVERE DIABETIC KETOACIDOSIS	SEPSIS	12.8	5	59.6	32.3	7.5	0.6	187	0.97	20	16	5.1	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
70	924873	1 YEAR	FEMALE	04-05-2020	08-05-2020	ACUTE EXACERBATION OF MUTITRIGGER WHEEZE WITH ACUTE VIRAL PNEUMONIA	RESPIRATORY	10.8	14	89.3	6.9	2.9	0.7	242	0.3	50	22	108.51	BLOOD , URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
71	925047	1 YEAR	MALE	05-05-2020	17-05-2020	ADRENAL MASS WITH HYPERTENSIVE EMERGENCY	SEPSIS	7.9	20	46.6	47	5.6	0.5	303	0.25	49	14	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
72	925382	10 YEAR	FEMALE	07-05-2020	11-06-2020	DISSEMINATED MRSAWITH DISSEMINATED TUBERCULOSIS WITH PARASPINAL ABSCESS WITH SEPTIC SHOCK WITH LEFT SIDED EMPYEMA WITH RESPIRATORY DISTRESS WITH URINARY TRACT INFECTION (KLEBSIELLA) WITH ANEMIA WITH HYPOKALEMIA	SEPSIS	10.5	8.3	74.8	21.7	2.8	0.6	100	1.02	85	45	284.75	BLOOD,CSF,PUS C/S: MRSA, URINE C/S: KLEBSIELLA	SENT	KLEBSIELLA PNEUMONIAE	SENT	STAPHYLOCOCCUS AUREUS (MRSA)	NOT SENT
73	925550	1 MONTH	MALE	08-05-2020	08-05-2020	RESPIRATORY FAILURE WITH EARLY ONSET SEPSIS WITH ? MENINGITIS	CNS	17.3	6	59.8	31.9	7.5	0.2	141	1.21	137	35	47.23	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
74	925935	10YEAR	MALE	10-05-2020	18-05-2020	ACUTE VIRAL HEPATITIS A WITH HEPATIC ENCEPHALOPATHY WITH COAGULOPATHY WITH ACUTE LIVER FAILURE	GIT	4.3	4.7	48.7	48.7	2	0.3	40	0.64	1842	3773	0.4	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
75	926188	1 YEAR 6 MONTHS	MALE	11-05-2020	27-05-2020	ACUTE TUBERCULAR MENINGITIS WITH RESPIRATORY FAILURE WITH NEUROLOGICAL SEQUALAE WITH DRUG INDUCED HEPATIC INJURY	GIT	7.3	10	58.9	29.4	11.6	0	649	0.18	31	14	3.71	BLOOD AND CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
76	926380	14 YEAR	MALE	12-05-2020	25-05-2020	FRACTURE LEFT HIP JOINT WITH OSTEOMYELITIS LEFT ACETABULUM WITH SHOCK WITH RESPIRATORY DISTRESS WITH PLEURAL EFFUSION	RESPIRATORY	9.2	22	80.1	9.8	8.7	1.2	285	0.78	26	19	325.67	BLOOD C/S: MSSA , PELURAL FLUID C/S: NO GROWTH	NOT SENT	-	SENT	STAPHYLOCOCCUS AUREUS(MSSA)	NOT SENT
77	927186	9 YEARS	MALE	18-05-2020	27-05-2020	ROADSIDE ACCIDENT WTH SEVERE TRAUMATIC BRAIN INJURY WITH DEPRESSED SKULL FRACTURE WITH RESPIRATORY FAILURE WITH SHOCK	CNS	9.4	11	77.4	14	8.2	0.1	170	0.39	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
78	927187	5 YEARS	FEMALE	18-05-2020	27-05-2020	ROADSIDE ACCIDENT WITH LEFT SIDED RIB FRACTURE WITH LEFT MANDIBULAR FRACTURE WITH LEFT HEMITHORAX	CNS	8.4	14	88	26.8	4.3	0.5	265	0.36	164	63	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
79	927157	1 MONTH	MALE	17-05-2020	27-05-2020	FIRST ONSET SEIZURES,? MENINGITIS	CNS	10.6	8.4	37.9	84.4	10	2.8	517	0.21	34	23	0.25	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
80	927452	15 YEARS	FEMALE	16-05-2020	26-05-2020	K/C/O SLE WITH AUTOIMMUNE HEMOLYTIC ANEMIA WITH MODERATE PERICARDIAL EFFUSION	SEPSIS	4.1	6.1	71.4	22.9	5.4	0.2	24	0.56	-	-	-	BLOOD , URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT

		CULTURES																											
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
53	921306	-	NOT SENT	-	NOT SENT	-	6	1	CEFOTAXIM	I/V	3 DAYS	300 MG	SEPSIS	BSI	2	AMIKACIN	I/V	3 DAYS	40MG	SEPSIS	BSI	3	MEROPENEM	I/V	10 DAYS	200MG	SEPSIS	BSI	4	VANCOMYCIN
54	800480	-	NOT SENT	-	CSF C/S	STAPHYLOCOCCUS EPIDERMIDIS	3	1	CEFTRIAXONE	I/V	14 DAYS	2000 MG	SEPSIS	BSI	2	MEROPENEM	I/V	21 DAYS	1500 MG	? MENINGITIS	BSI	3	VANCOMYCIN	I/V	21 DAYS	1000 MG	? MENINGITIS	BSI	-	-
55	922250	-	NOT SENT	-	NOT SENT	-	2	1	CEFEPIME+ TAZOBACTA	I/V	10 DAYS	1700 MG	ENTERIC FEVER	BSI	2	AZITHROMYCIN	P/O	7 DAYS	100 MG	ENTERIC FEVER	BSI	-	-	-	-	-	-	-	-	-
56	564970	-	NOT SENT	-	CSF C/S	-	2	1	MEROPENEM	I/V	10 DAYS	700 MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	10 DAYS	500 MG	MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
57	587987	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	8 DAYS	1200 MG	MENINGOENCEPHALITIS	BS	2	ACICLOVIR	I/V	8 DAYS	100 MG	MENINGOENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-
58	908588	KLEBSIELLA PNEUMONIAE	NOT SENT	-	NOT SENT	-	6	1	CEFTRIAXONE	I/V	7 DAYS	2000MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	11 DAYS	800 MG	SEPSIS	BSI	3	MEROPENEM	I/V	14 DAYS	1200 MG	SEPSIS	BSI	4	AMIKACIN
59	922794	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	8 DAYS	1900 MG	SEPSIS	BSI,IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	922980	-	PUS C/S	-	NOT SENT	-	4	1	FLUCONAZOLE	I/V	7 DAYS	30 MG	FUNGAL SEPSIS	BSI	2	METRONIDAZOLE	I/V	12 DAYS	90 MG	POST SURGERY	IAI	3	AMIKACIN	I/V	8DAYS	40 MG	SEPSIS	BSI	4	MEROPENEM
61	922895	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	5 DAYS	1400 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	755036	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	2 DAYS	2000 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	923291	-	NOT SENT	-	CSF C/S	-	2	1	CEFTRIAXONE	I/V	3 DAYS	1100 MG	MENINGITIS	BSI	2	ACICLOVIR	I/V	3 DAYS	330 MG	? MENINGOENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-
64	923525	-	NOT SENT	-	NOT SENT	-	1	1	ACICLOVIR	I/V	3 DAYS	1200 MG	VARICELLA INFECTION, MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	923146	-	NOT SENT	-	NOT SENT	-	2	1	CEFOTAXIM	I/V	7 DAYS	2000 MG	PERICARDIAL EEFUSION	BSI	2	VANCOMYCIN	I/V	7 DAYS	900 MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-
66	923681	-	NOT SENT	-	NOT SENT	-	4	1	CEFEPIME+TAZOBACTAM	I/V	13 DAYS	400MG	SEPSIS	BSI	2	NETILMICIN	I/V	8 DAYS	30 MG	? SEPSIS	BSI	3	MEROPENEM	I/V	14 DAYS	200 MG	SEPSIS	BSI	4	FLUCONAZOLE
67	923796	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	8 DAYS	200 MG	POST SURGERY	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68	924308	-	NOT SENT	-	NOT SENT	-	3	1	CEFOTAXIM	I/V	1 DAY	300 MG	SEPSIS	BSI	2	CEFUROXIME	I/V	7 DAYS	300 MG	SEPSIS	BSI	3	METRONIDAZOLE	I/V	7 DAYS	900 MG	SEPSIS	IAI	-	-
69	924795	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	5 DAYS	3000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	924873	-	NOT SENT	-	NOT SENT	-	2	1	CEFUROXIME	I/V	7 DAYS	1500MG	? PNEUMONIA	LRTI	2	AZITHROMYCIN	P/O	7 DAYS	100 MG	? PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-
71	925047	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	13 DAYS	1000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	925382	-	PUS C/S	STAPHYLOCOCCUS AUREUS (MRSA)	CSF C/S	STAPHYLOCOCCUS AUREUS (MRSA)	8	1	PIPERCALLIN+TAZOBATAM	I/V	19 DAYS	1200 MG	BLOOD C/S POSITIVE	BSI	2	VANCOMYCIN	I/V	13 DAYS	1200 MG	BLOOD C/S POSITIVE	BSI	3	CEFTRIAXONE	I/V	7 DAYS	2000 MG	BLOOD C/S POSITIVE	BSI	4	GENTAMICIN
73	925550	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	1 DAY	100 MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	1 DAY	60 MG	MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
74	925935	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	7 DAYS	3500 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	926188	-	NOT SENT	-	CSF C/S	-	1	1	CEFTRIAXONE	I/V	8 DAYS	800MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	926380	-	NOT SENT	-	PLEURAL FLUID C/S	-	2	1	CEFTRIAXONE	I/V	14 DAYS	4000 MG	BLOOD C/S POSITIVE	BSI	2	VANCOMYCIN	I/V	14 DAYS	1500MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-
77	927186	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	-	4 DAYS	1600 MG	SURGICAL WOUND	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	927187	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	4 DAYS	1600 MG	SURGICAL WOUNDS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79	927157	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	10 DAYS	200 MG	? MENINGITIS	BSI	2	VANCOMYCIN	I/V	10 DAYS	100 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
80	927452	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	10 DAYS	4000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																	
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
53	921306	I/V	10 DAYS	100 MG	SEPSIS	BSI	5	LINEZOLID	I/V	60 MG	SEPSIS : FUNGAL	BSI	6	FLUCONAZOLE	I/V	7 DAYS	30MG	FUNGAL SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
54	800480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
55	922250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	564970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57	587987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
58	908588	I/V	18 DAYS	300MG	SEPSIS	BSI	5	COLISTIN	I/V	1.5MU	BAL C/S POSITIVE	VAP	6	AMOXICILLIN +CLAVULINIC ACID	I/V	12 DAYS	1800 MG	BLOOD C/S POSITIVITY	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	922794	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	922980	I/V	14 DAYS	100 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	922895	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	755036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	923291	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
64	923525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	923146	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	923681	I/V	6 DAYS	40 MG	THROMBOCYTOPENIA	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67	923796	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68	924308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	924795	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	924873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71	925047	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	925382	I/V	5 DAYS	200MG	BLOOD C/S POSITIVE	BSI	5	TEICOPLANIN	I/V	21 DAYS	300 MG	BLOOD C/S POSITIVE	BSI	6	LINEZOLID	I/V	20 DAYS	600 MG	BLOOD C/S POSITIVE	BSI	7	CEFOPERAZONE+SULBACTAM	I/V	7 DAYS	2400 MG	BLOOD C/S POSITIVE	BSI	8	AMIKACIN	I/V	5 DAYS	500 MG	BLOOD C/S POSITIVE
73	925550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
74	925935	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	926188	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	926380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77	927186	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	927187	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79	927157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	927452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
53	921306	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
54	800480	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
55	922250	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
56	564970	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
57	587987	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
58	908588	-	-	-	-	-	-	-	-	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
59	922794	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
60	922980	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
61	922895	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
62	755036	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
63	923291	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
64	923525	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
65	923146	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
66	923681	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
67	923796	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
68	924308	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
69	924795	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
70	924873	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
71	925047	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
72	925382	BSI	-	-	-	-	-	-	-	YES	-	YES	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
73	925550	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
74	925935	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
75	926188	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
76	926380	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
77	927186	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
78	927187	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
79	927157	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
80	927452	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO

								INVESTIGATION																
Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
81	927464	1 MONTH	FEMALE	19-05-2020	28-05-2020	CITRULLINEMIA	SEPSIS	6.9	5.4	29.8	60.2	9.4	0	721	0.27	-	-	0.03	BLOOD , URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
82	919270	1 YEAR	MALE	20-05-2020	24-05-2020	F/U/C/O BURNS FOR STOMA CLOSURE	SEPSIS	8.9	6.4	75	19.9	4.7	0.1	550	0.13	-	-	52.15	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
83	927711	10 MONTHS	MALE	19-05-2020	21-06-2020	A/H/O SCALD BURNS (40%) WITH SHOCK WITH DYSELECTROLYTEMIA	SEPSIS	13.7	12	45.3	48	6.1	0.1	877	0.51	63	28	29	BLOOD C/S: PSEUDOMONAS, WOUND C/S : PSEUDOMONAS, URINE AND STOOL C/S: NO GROWTH	SENT	-	SENT	PSEUDOMONAS AERUGINOSA	NOT SENT
84	865359	18 YEAR	FEMALE	20-05-2020	25-05-2020	K/C/O OSTEOSARCOMA RIGHT DISTAL FEMUR WITH RESPIRATORY FAILURE WITH POST CPR SURVIVOR	SEPSIS	9.2	8.9	83.9	7.8	8.1	0.1	155	1.14	-	-	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE, URINE AND BAL C/S : NO GROWTH	SENT	-	SENT	KLEBSIELLA PNEUMONIAE	BAL C/S
85	928229	10YEAR	FEMALE	22-05-2020	31-05-2020	BENIGN INTRACRANIAL HYPERTENSION WITH HTPOCALCEMIC SEIZURES WITH HYPOVITAMINOSIS D WITH PSEUDOHYPOPARATHYROIDISM	SEPSIS	13.2	8.9	58.9	29.6	10.8	0.3	104	0.48	36	16	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
86	919270	1 YEAR	MALE	25-05-2020	28-05-2020	F/U/C/O BURNS FOR RELEASE OF CONTRACTURE	SEPSIS	8.9	6.4	75	19.9	4.7	0.1	550	0.13	-	-	52.15	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
87	929272	11 YEARS	MALE	27-05-2020	29-05-2020	TROPICAL FEVER WITH CATECHOLAMINE RESISTANT SHOCK WITH RESPIRATROY FAILURE WITH ACUTE KIDNEY INJURY	TROPICAL FEVER	9	3	89.6	7.1	3.3	0	32	1.49	556	112	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
88	930467	11 YEARS	MALE	31-05-2020	10-06-2020	A/H/O FALL FROM HEIGHT WITH SEVERE TRAUMATIC BRAIN INJURY WITH SHOCK WITH RESPIRATORY FAILURE	CNS	13.8	12	59.4	35.5	4	0.8	282	0.7665	24	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
89	930459	10 YEAR	MALE	31-05-2020	05-06-2020	PLASMODIUM VIVAX MALARIA	GIT	8.4	11	43.6	41.9	11	0.1	16	0.92	27	20	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
90	930493	2 YEARS	MALE	01-06-2020	06-06-2020	TYPE 1 DIABETES MELLITUS WITHS EVERE DKA WITH UNDERLYING MULTI TRIGGER WHEEZE	SEPSIS	8.2	4.7	70.8	18.7	10.3	0	184	0.85	30	16	0.49	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
91	925382	10 YEAR	FEMALE	02-06-2020	11-06-2020	DISSEMINATED MRSAWITH DISSEMINATED TUBERCULOSIS WITH PARASPINAL ABSCESS WITH SEPTIC SHOCK WITH LEFT SIDED EMPYEMA WITH RESPIRATORY DISTRESS WITH URINARY TRACT INFECTION (KLEBSIELLA) WITH ANEMIA WITH HYPOKALEMIA	SEPSIS	10.5	8.3	74.8	21.7	2.8	0.6	100	1.02	85	45	284.75	BLOOD,CSF,PUS C/S: MRSA, URINE C/S: KLEBSIELLA	SENT	KLEBSIELLA PNEUMONIAE	SENT	STAPHYLOCOCCUS AUREUS(MRSA)	NOT SENT
92	930864	3 YEAR	MALE	02-06-2020	13-06-2020	COMPLICATED ENTERIC FEVER WITH B12 DEFICIENCY WITH BLOOD C/S POSITIVE FOR SALMONELLA TYPHI WITH GRADE 2 PEM WITH HYPOVITAMINOSIS D	GIT	7.1	5.5	77.8	15.8	6	0.1	50	0.15	-	-	126.58	BLOOD C/S: SALMONELLA TYPHI	NOT SENT	-	SENT	SALMONELLA TYPHI	NOT SENT
93	981933	10 MONTHS	MALE	05-06-2020	19-06-2020	A/H/O DFALL FROM BED WITH LATE HEMOLYTIC DISEASE OF NEWBORN WITH CHOLESTATIC PHASE OF VIRAL HEPATITIS WITH CHRONIC LIVER DISEASE WITH MILD TRAUMATIC BRAIN INJURY WITH HYPOVITAMINOSIS D	CNS	4.5	21	40.4	53.4	5.9	0.1	519	0.22	53	13	0.3	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
94	931831	2 YEARS	MALE	05-06-2020	07-06-2020	C/O WILM'S TUMOR WITH LIVER METASTASIS WITH LARGE ASD	SEPSIS	9.6	12	69.2	20.5	10.1	0	531	0.35	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
95	932268	6 YEARS	FEMALE	05-06-2020	16-06-2020	ACUTE VIRAL MENINGOENCEPHALITIS WITH PRE-RENAL AKI WITH RESPIRATORY FAILURE	CNS	12.7	17	41.2	52.5	6.1	0	165	0.62	164	145	41.52	BLOOD, CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
96	932287	2 YEARS	FEMALE	06-06-2020	13-06-2020	TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KETOACIDOSIS WITH ACUTE LIVER FAILURE WITH HEPATIC ENCEPHALOPATHY GRADE 1	GIT	10.9	11	20.3	65.4	9.4	4.7	200	0.15	945	6302	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
97	934048	13 YEARS	MALE	12-06-2020	02-07-2020	A/H/O ROAD SIDE ACCIDENT WITH MENINGITIS SECONDARY TO TARUMA WITH MULTIPLE FACIAL FRACTURES	CNS	10	8.6	77.9	11.3	10.5	0.1	239	0.5	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
98	934646	11 DAYS	MALE	14-06-2020	29-06-2020	LATE ONSET SEPSIS WITH SAGGITAL SINUS THROMBOSIS WITH ACYANOTIC CONGENITAL HEART DISEASE	CVS	16	8.9	46.5	41.8	7.2	4.2	236	0.4	45	42	24.24	BLOOD,CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
99	935412	9 YEAR	FEMALE	17-06-2020	07-07-2020	TUBERCULAR MENINGITIS WITH B/L 6TH CRANIAL NERVE PALSY WITH TUBERCULOMAS WITH CENTRAL HYPERTHERMIA	CNS	13.1	14	81.9	9.9	8.2	0	328	0.36	23	13	8.26	BLOOD,CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
100	935004	15 YEARS	FEMALE	18-06-2020	29-06-2020	PANCYTOPENIA WITH MEGALOBLASTIC ANEMIA WITH ACUTE KIDNEY INJURY	RENAL	5.8	12	61.7	25	8.8	4.5	75	6.68	-	-	117	BLOOD, URINE C/S : NO GROWTH	SENT	-	SENT	-	NOT SENT
101	935574	4 MONTHS	MALE	18-06-2020	22-06-2020	RECURRENT PNEUMONIA-CMV IgM POSITIVE	RESPIRATORY	10.1	12	20.9	71.4	4.2	2.7	479	0.32	57	26	0.89	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
102	936454	10 YEAR	FEMALE	22-06-2020	05-07-2020	ACUTE PANCREATITIS WITH BLOOD C/S POSITIVE FOR KLEBSIELLA WITH SYNDROME OF INAPPROARIATE ANTI DI URETIC HORMONE	GIT	11.9	13	83.6	10.4	6	0	234	0.31	41	19	23.1	BLOOD C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
103	938014	3 MONTHS	MALE	27-06-2020	07-07-2020	K/C/O DOWN SYNDROME WITH UMBILICAL HERNIA WITH RIGHT LOBAR PNEUMONIA WITH HYPOCALCEMIA WITH FAILURE TO THRIVE WITH SEBORRHOIEC DERMATITIS	RESPIRATORY	8.5	16	78	18.8	2.9	0	412	0.72	49	99	0.12	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
104	938271	15 YEARS	MALE	28-06-2020	03-07-2020	TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KETOACIDOSIS WITH ACUTE LIVER FAILURE WITH HEPATIC ENCEPHALOPATHY GRADE 1	GIT	15.4	16	88.3	7.8	3.9	0	167	0.64	15	15	8.9	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
105	935574	4 MONTHS	MALE	18-06-2020	22-06-2020	RECURRENT PNEUMONI-CMV IgM POSITIVE	RESPIRATORY	10.1	12	20.9	71.4	4.2	2.7	479	0.32	57	26	0.89	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
106	935287	9 YEAR	MALE	29-06-2020	29-06-2020	C/O AML WITH PANCYTOPENIA WITH ABDOMINAL WALL CELLULITIS WITH RESPIRATORY FAILURE WITH POST OP COLOSTOMY	SEPSIS	7	1.5	20	58	0	0	10	0.38	41	77	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
107	938396	1 YEAR	MALE	29-06-2020	18-07-2020	REYE'S SYNDROME WITH ACUTE ENCEPHALITIS WITH RESPIRATORY FAILURE WITH RIGHT SIDED HEMIPARESIS	CNS	10.1	18	35	55	8	0	151	0.59	6650	6231	144.28	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
108	938776	1 MONTH	FEMALE	30-06-2020	08-07-2020	CONGENITAL ADRENAL HYPOPLASIA WITH RESPIRATORY DISTRESS WITH FAILURE TO THRIVE WITH ACUTE DIARRHOEAL DISEASE WITH SOME DEHYDRATION	CNS	9.6	22	91.6	6.1	1.8	0.3	486	1.69	23	29	0.12	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
109	992334	28 DAYS	FEMALE	27-11-2020	09-12-2020	LATE ONSET SEPSIS WITH MILIARY TUBERCULOSIS WITH RESPIRATORY FAILURE	RESPIRATORY	10.2	6.2	83.7	13.4	1.1	1.4	325	0.44	67	15	68.44	BLOOD,CSF,URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT

		CULTURES																												
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
81	927464	-	NOT SENT	-	NOT SENT	-	2	1	CEFOTAXIM	I/V	2 DAYS	200 MG	SEPSIS	BSI	2	AMIKACIN	I/V	2 DAYS	30 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-
82	919270	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	6 DAYS	1100 MG	SURGICAL EXPLORATION	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	927711	-	PUS C/S	PSEUDOMONAS AERUGINOSA	STOOL C/S	-	3	1	CEFTRIAXONE	I/V	6 DAYS	800 MG	BLOOD C/S POSITIVE	BSI	2	MEROPENEM	I/V	14 DAYS	400 MG	SEPSIS	BSI	3	VANCOMYCIN	I/V	14 DAYS	300 MG	SEPSIS	BSI	-	-
84	865359	-	NOT SENT	-	NOT SENT	-	5	1	MEROPENEM	I/V	2 DAYS	3000 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	2 DAYS	2000 MG	SEPSIS	BSI	3	TEICOPLANIN	I/V	5 DAYS	400 MG	SEPSIS	BSI	4	VORICONAZOLE
85	928229	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	7 DAYS	2000MG	? MENINGITIS	BSI	2	AZITHROMYCIN	P/O	5 DAYS	300 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
86	919270	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	6 DAYS	1100 MG	SURGICAL EXPLORATION	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	929272	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	3 DAYS	200 MG	TROPICAL FEVER	BSI	2	AZITHROMYCIN	I/V	3 DAYS	300 MG	TROPICAL FEVER	BSI	-	-	-	-	-	-	-	-	-	-
88	930467	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	10 DAYS	3000 MG	SOFT TISSUE INJURY	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
89	930459	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	2 DAYS	2000 MG	? TROPICAL FEVER	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	930493	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	6 DAYS	1200 MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	925382	-	PUS C/S	STAPHYLOCOCCUS AUREUS (MRSA)	CSF C/S	STAPHYLOCOCCUS AUREUS (MRSA)	8	1	PIPERCALLIN+TAZOBATAM	I/V	19 DAYS	1200 MG	BLOOD C/S POSITIVE	BSI	2	VANCOMYCIN	I/V	13 DAYS	1200 MG	BLOOD C/S POSITIVE	BSI	3	CEFTRIAXONE	I/V	7 DAYS	2000 MG	BLOOD C/S POSITIVE	BSI	4	GENTAMICIN
92	930864	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	13 DAYS	1000 MG	BLOOD C/S POSITIVE	BSI	2	AZITHROMYCIN	P/O	7 DAYS	100 MG	BLOOD C/S POSITIVE	BSI	-	-	-	-	-	-	-	-	-
93	981933	-	NOT SENT	-	NOT SENT	-	2	1	CEFOTAXIM	I/V	3 DAYS	1000 MG	CHOLESTATIC HEPATITIS	IAI	2	CEFTRIAXONE	I/V	4 DAYS	1000 MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-
94	931831	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	3 DAYS	1000 MG	? SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	932268	-	NOT SENT	-	CSF C/S	-	2	1	CEFTRIAXONE	I/V	12 DAYS	2000 MG	? MENINGOENCEPHALITIS	BSI	2	ACICLOVIR	I/V	10 DAYS	2000 MG	? MENINGOENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-	-
96	932287	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	7 DAYS	1000 MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	934048	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	14 DAYS	3000 MG	? MENINGITIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	2000 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-
98	934646	-	NOT SENT	-	CSF C/S	-	2	1	MEROPENEM	I/V	14 DAYS	200 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	100 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-
99	935412	-	NOT SENT	-	CSF C/S	-	2	1	CEFTRIAXONE	I/V	3 DAYS	3000 MG	? MENINGITIS	BSI	2	ACICLOVIR	I/V	2 DAYS	300 MG	? ENCEPHALITIS	BSI	-	-	-	-	-	-	-	-	-	-
100	935004	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	2 DAYS	3000 MG	SEPSIS	BSI	2	CEFOTAXIM	I/V	7 DAYS	3500 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-
101	935574	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	5 DAYS	500 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102	936454	-	NOT SENT	-	NOT SENT	-	1	1	MEROPENEM	I/V	14 DAYS	1500 MG	BLOOD C/S POSITIVITY	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
103	938014	-	NOT SENT	-	NOT SENT	-	3	1	VANCOMYCIN	I/V	4 DAYS	200 MG	PNEUMONIA	LRTI	2	CEFTRIAXONE	I/V	11 DAYS	400 MG	PNEUMONIA	LRTI	3	LINEZOLID	I/V	8DAYS	20 MG	PNEUMONIA	LRTI	-	-
104	938271	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	5 DAYS	2000MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105	935574	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	5 DAYS	500 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	935287	-	NOT SENT	-	NOT SENT	-	6	1	CIPROFLOXACIN	I/V	7 DAYS	500 MG	SEPSIS	BSI	2	AZITHROMYCIN	P/O	4 DAYS	300 MG	SEPSIS	BSI	3	TEICOPLANIN	I/V	10 DAYS	200 MG	SEPSIS	BSI	4	COLISTIN
107	938396	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	14 DAYS	450 MG	SEPSIS	IAI	2	VANCOMYCIN	I/V	9 DAYS	300 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-
108	938776	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	5 DAYS	20 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	992334	-	NOT SENT	-	CSF C/S	-	2	1	MEROPENEM	I/V	10 DAYS	216 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	10 DAYS	81 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
81	927464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
82	919270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
83	927711	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
84	865359	I/V	5 DAYS	400 MG	SEPSIS	BSI	5	COLISTIN	I/V	5 DAYS	3 MU	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85	928229	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
86	919270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
87	929272	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88	930467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
89	930459	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	930493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	925382	I/V	5 DAYS	200MG	BLOOD C/S POSITIVE	BSI	5	TEICOPLANIN	I/V	21 DAYS	300 MG	BLOOD C/S POSITIVE	BSI	6	LINEZOLID	I/V	20 DAYS	600 MG	BLOOD C/S POSITIVE	BSI	7	CEFOPERAZONE+SULBACTAM	I/V	7 DAYS	2400 MG	BLOOD C/S POSITIVE	BSI	8	AMIKACIN	I/V	5 DAYS	500 MG	BLOOD C/S POSITIVE
92	930864	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	981933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
94	931831	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	932268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
96	932287	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	934048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
98	934646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
99	935412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	935004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
101	935574	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
102	936454	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
103	938014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
104	938271	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
105	935574	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
106	935287	I/V	10 DAYS	2 MU	SEPSIS	BSI	5	IMIPENEM	I/V	12 DAYS	1500 MG	SEPSIS	LRTI	6	VORICONAZOLE	P/O	7 DAYS	200 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
107	938396	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
108	938776	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
109	992334	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
81	927464	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
82	919270	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
83	927711	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
84	865359	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
85	928229	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
86	919270	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
87	929272	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
88	930467	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
89	930459	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
90	930493	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
91	925382	BSI	-	-	-	-	-	-	-	YES	-	YES	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
92	930864	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
93	981933	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
94	931831	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
95	932268	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
96	932287	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
97	934048	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
98	934646	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
99	935412	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
100	935004	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
101	935574	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
102	936454	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
103	938014	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
104	938271	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
105	935574	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
106	935287	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
107	938396	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
108	938776	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
109	992334	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES

Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	INVESTIGATION															
								HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
110	993367	6 YEAR	MALE	29-11-2020	06-12-2020	ROAD SIDE ACCIDENT WITH MILD TRAUMATIC BRAIN INJURY WITH DEPRESSED AND DISPLACED FRACTURE OF FRONTAL BONE OF HEAD WITH SUB ARACHANOID HEMORRHAGE	CNS	9.7	27	79.6	12.7	5.8	1.7	389	0.36	47	18	-	-	NOT SENT	-	NOT SENT	-	NOT SENT
111	975455	12 YEAR	FEMALE	13-11-2020	05-12-2020	K/C/O B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA (PRECURSOR) ON INDUCTION WITH ANGIOINVASIVE ASPERGILLOSIS WITH B/L PNEUMOTHORAX WITH CHEST TUBE IN-SITU WITH RESPIRATORY FAILURE WITH CHOLESTATIC JAUNDICE	SEPSIS	11	5.8	85.5	7.1	7.2	0	265	1.49	123	217	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE, BAL C/S AND URINE C/S: NO GROWTH	SENT	-	SENT	KLEBSIELLA PNEUMONIAE	BAL C/S
112	992735	10 YEAR	MALE	27-11-2020	05-12-2020	K/C/O DUCHENE MUSCLE DYSTROPHY WITH ACUTE FEBRILE ILLNESS WITH RESPIRATORY DISTRESS WITH HYPOTENSIVE SHOCK WITH HYPOVITAMINOSIS -D	SEPSIS	9.4	16	83.3	9.3	7.3	0	328	0.14	127	305	11.25	BLOOD AND URINE C/S : NO GROWTH, THROAT C/S: ENTEROBACTER	SENT	-	SENT	-	THROAT C/S
113	995178	4 MONTHS	MALE	03-12-2020	09-12-2020	VIRAL PNEUMONIA WITH RIGHT PNEUMOTHORAX WITH CHEST TUBE IN-SITU WITH RESPIRATORY FAILURE WITH SEPTIC SHOCK	RESPIRATORY	8.8	14	32.8	66.3	0.8	0	745	0.16	59	39	0.71	BLOOD C/S: STAPH EPIDERMIDIS, BAL C/S: STENOTROPHOMONAS MALTOPHILIA	NOT SENT	-	SENT	STAPHYLOCOCCUS EPIDERMIDIS	BAL C/S
114	995574	10YEAR	MALE	04-12-2020	10-12-2020	K/C/O TYPE 1 DIABETES MELLITUS WITH SEVERE DKA WITH ? FUNGAL PNEUMONIA WITH SHOCK WITH HYPOVITAMINOSIS D WITH FAILURE TO THRIVE WITH MULTIPLE OSTEOCHONDROMAS	RESPIRATORY	13.6	18	72.2	2.3	2.7	0	282	0.74	47	38	181.98	BLOOD AND URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
115	996344	16 YEAR	MALE	06-12-2020	10-12-2020	C/O PRECURSOR T-CELL ACUTE LYMPHOBLASTIC LEUKEMIA WITH FEBRILE NEUTROPENIA WITH RESPIRATORY FAILURE WITH PNEUMONIA WITH BLEDDING DIATHESIS WITH ACUTE RENAL INJURY	SEPSIS	5.8	0.5	6	2	1	1	10	0.55	130	233	-	BLOOD C/S: NO GROWTH, BAL C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	-	BAL C/S
116	996167	1 YEAR	FEMALE	05-12-2020	22-12-2020	C/O HEMOLYTIC UREMIC SYNDROME WITH RESPIRATORY DISTRESS WITH ANEMIA WITH HYPERTENSIVE EMERGENCY	SEPSIS	5.3	16	41	49.4	7.7	1	150	6.34	28	22	15.08	BLOOD AND PERITONEAL DIALYSIS FLUID C/S: NO GROWTH, URINE C/S: E.COLI	SENT	E.COLI	SENT	-	NOT SENT
117	996855	3 YEAR	MALE	07-12-2020	16-12-2020	MIS-C WITH HYPOTENSIVE SHOCK WITH ? ENCEPHALOPATHY WITH HYPOVITAMINOSIS D	CVS	9.2	3.7	60.9	31.5	6	1.3	75	0.49	25	19	181	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
118	996861	11 MONTHS	MALE	08-12-2020	26-01-2021	ACUTE MENINGITIS WITH SEIZURES WITH DIFFUSE CEREBRAL VENOUS SINUS THROMBOSIS WITH INFARCTS WITH IRON DEFICIENCY ANEMIA WITH ICH WITH MIDLINE SHIFT POST TRACHEOSTOMY, AMPUTATION B/L FORE FOOT ,VAP	CNS	7.2	14	54.2	38	7	0.4	457	0.16	29	7	83.13	BAL , WOUND,BLOOD C/S: KLEBSIELLA PNEUMONIAE, BAL C/S: PSEUDOMONAS AERUGINOSA	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	BAL C/S
119	999398	1 MONTH 17 DAYS	FEMALE	12-12-2020	17-12-2020	ACUTE DIARRHOEAL DISEASE WITH SEVERE DEHYDRATION WITH SEVRE METABOLIC ACIDOSIS WITH PRE RENAL AZOTEMIA	GIT	11.4	43	48.1	36.8	8	0.8	928	2.41	66	45	2.5	BLOOD AND STOOL C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
120	999412	1 MONTH 5 DAYS	MALE	15-12-2020	30-12-2020	LEFT LEG OSTEOMYELITIS WITH KNEE IN VOLVEMENT POST INCISION AND DRAINAGAEWITH WOUND SWAB POSITIVE FOR STAPHYLOCOCCUS AUREUS WITH FAILURE TO THRIVE WITH RIGHT FOREARM ABSCESS	SSTI	11.6	20	40	50	8	2	605	0.23	25	11	204.5	BLOOD, BAL C/S: NO GROWTH, WOUND SWAB C/S: STAPHYLOCOCCUS AUREUS(MSSA)	NOT SENT	-	SENT	-	BAL C/S
121	992636	1 MONTH	MALE	15-12-2020	29-12-2020	ACUTE BRONCHOPNEUMONIA WITH ACUTE LIFE THREATENING EVENT WITH GASTROESOPHAGEAL REFLUX	RESPIRATORY	14.6	17	46	44	10	0	363	0.33	-	-	2	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
122	1000609	10 YEAR	MALE	16-12-2020	28-12-2020	K/C/O AUTISTIC SPECTRUM DISORDER WITH STATUS EPILEPTICUS WITH ? ASPIRATION PNEUMONIA WITH RESPIRATORY FAILURE WITH MIS-C	CNS	13.2	17	66.8	24.1	6	2.9	473	0.39	25	16	0.59	BAL,BLOOD,URINE C/S: NO GROWTH	SENT	-	SENT	-	BAL C/S
123	1001065	1 MONTH 11 DAYS	MALE	16-12-2020	22-12-2020	ACUTE DIARRHOEAL DISEASE WITH SEPSIS WITH SEVERE METABOLIC ACIDOSIS WITH RESPIRATORY FAILURE WITH MODS WITH COAGULOPATHY POST PERITNEAL DIALYSIS	GIT	11.9	40	56.4	35.4	3.6	0.4	508	1.77	1442	521	20.92	FUNGAL BAL C/S: ASPERGILLUS FLAVUS, BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	BAL C/S
124	1001464	1 YEAR	FEMALE	17-12-2020	24-12-2020	SEVERE MALNUTRITION WITH MEGALOBLASTIC ANEMIA	SEPSIS	1.7	3.9	12.3	85.6	1.9	0	90	0.5	307	110	9.69	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
125	1001519	8 MONTHS	MALE	17-12-2020	25-01-2020	SCALD BURNS (45%) WITH BLOOD AND WOUND C/S POSITIVE FOR KLEBSIELLA PNEUMONIAE POST GRAFTING	SSTI	8.1	4.2	44.9	44.5	10.4	0.1	151	0.34	74	29	67	WOUND C/S: BURKHOLDERIA CEPACIA,KLEBSIELLA PNEUMONIAE, STAPHYLOCOCCUS AUREUS,E.COLI; BLOOD C/S: KLEBSIELLA PNEUMONIAE	SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
126	1001513	12 YEAR	MALE	17-12-2020	30-12-2020	A/H/O ROADSIDE ACCIDENT WITH POLYTRAUMA WITH LEFT SIDED PNEUMOTHORAX WITH DIFFUSE CEREBRAL EDEMA WITH BLOOD C/S POSITIVE FOR STAPHYLOCOCCUS HEMOLYTICUS	CNS	9.7	18	82.3	7.9	8.5	0.9	161	0.73	133	111	42.64	WOUND AND URINE C/S: NO GROWTH, BLOOD C/S: STAPHYLOCOCCUS HEMOLYTICUS, BAL C/S: ACINETOBACTER BAUMANII	SENT	-	SENT	STAPHYLOCOCCUS HEMOLYTICUS	BAL C/S
127	1002193	13 YEAR	FEMALE	19-12-2020	30-12-2020	C/O TUBERCULOSIS WITH RESPIRATORY FAILURE WITH LEFT SIDED PNEUMOTHORAX WITH ACUTE LIVER FAILURE WITH COAGULOPATHY WITH SEIZURES	RESPIRATORY	6.6	3.6	79.8	9.8	10.1	0.1	291	0.27	34	39	73.8	BLOOD , URINE, CSF C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
128	1002266	2 MONTHS	MALE	19-12-2020	26-12-2020	ACUTE DIARRHOEAL DISEASE WITH SEVERE METABOLIC ACIDOSIS WITH PRE-RENAL ACUTE KIDNEY INJURY	GIT	11.5	39	72.2	21.2	6.4	0.2	783	1.04	-	-	2.6	BLOOD C/S: NO GROWTH, URINE C/S: E.COLI	SENT	E.COLI	SENT	-	NOT SENT
129	1004558	7 YEARS	FEMALE	24-12-2020	02-01-2021	MIS-C WITH HYPOTENSIVE SHOCK	CVS	10.8	23	70.4	19.7	5.5	0.1	567	0.37	26	34	211	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
130	1004886	10 MONTHS	MALE	25-12-2020	02-01-2021	NEWLY DIAGNOSED TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KEOACIDOSIS	SEPSIS	12.4	46	67.7	24.5	7.2	0.1	854	0.57	-	-	1.15	BLOOD AND URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
131	1005344	6 YEARS	MALE	26-12-2020	02-01-2021	SEVERE DENGUE WITH RESPIRATORY DISTRESS WITH ? MIS-C	TROPICAL FEVER	10.2	7	50	38.5	10.3	0.9	74	0.49	88	54	55.47	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
132	1005447	3 YEARS	MALE	27-12-2020	05-01-2021	K/C/O MULTITIGGERWHEEZE WITH STATUS ASTHAMATICUS WITH RESPIRATORY FAILURE WITH HYPOVITAMINOSIS D	RESPIRATORY	9.7	37	69.3	19.2	8.4	0.1	467	0.42	59	21	8.85	BLOOD,URINE,BAL C/S: NO GROWTH	SENT	-	SENT	-	BAL C/S
133	1005527	2 YEARS	MALE	28-12-2020	06-01-2021	MULTIFOCAL EPILEPSY WITH RIGHT LOBAR PNEUMONIA WITH RESPIRATORY FAILURE (POST COVID)	RESPIRATORY	12.9	16	74.1	20.2	5.6	0	444	0.34	44	24	0.38	BLOOD,CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
134	1006404	10 YEARS	MALE	29-12-2020	08-01-2021	MIS-C WITH HYPOTENSIVE SHOCK WITH RESPIRATORY FAILURE WITH LV SYSTOLIC DYSFUNCTION	CVS	8.8	18	90.1	5	1.3	3.5	72	0.34	34	21	234.97	BLOOD,URINE,BAL C/S: NO GROWTH	SENT	-	SENT	-	BAL C/S
135	1007117	12 YEARS	MALE	31-12-2020	06-01-2021	MODERATE DIABETIC KETOACIDOSIS WITH SEVERE DEHYDRATION WITH GLUTEAL ABSCESS	SEPSIS	3.1	45	73	17.4	7.7	1.1	486	0.7	28	21	16.33	PUS C/S: STAPHYLOCOCCUS AUREUS, BLOOD, URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT

		CULTURES																											
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
110	993367	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFUROXIME	I/V	7 DAYS	2250MG	SKIN WOUND	SSTI	2	METRONIDAZOLE	I/V	3 DAYS	600 MG	SEPSIS	SSTI	-	-	-	-	-	-	-	-	-
111	975455	-	NOT SENT	-	NOT SENT	-	**7**	1	CIPROFLOXACIN	I/V	16 DAYS	400 MG	SEPSIS	BSI	2	AZITHROMYCIN	P/O	5 DAYS	500 MG	SEPSIS	LRTI	3	MEROPENEM	I/V	11 DAYS	3000MG	SEPSIS	LRTI,BSI	4	TEICOPLANIN
112	992735	ENTEROBACTER	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	8 DAYS	2400 MG	SEPSIS	BSI, LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
113	995178	STRENOTROPHOMONAS MALTOPHILIA	NOT SENT	-	NOT SENT	-	**3**	1	MEROPENEM	I/V	7 DAYS	450MG	SEPSIS	LRTI	2	VANCOMYCIN	I/V	7 DAYS	280 MG	SEPSIS	LRTI	3	AZITHROMYCIN	IP/O	7 DAYS	70 MG	SEPSIS	LRTI	-	-
114	995574	-	NOT SENT	-	NOT SENT	-	**3**	1	CEFTRIAXONE	I/V	6 DAYS	900 MG	SEPSIS	BSI	2	FLUCONAZOLE	I/V	7 DAYS	100MG	FUNGAL SEPSIS	BSI	3	AZITHROMYCIN	P/O	5 DAYS	200 MG	PNEUMONIA	LRTI	-	-
115	996344	KLEBSIELLA PNEUMONIAE	NOT SENT	-	NOT SENT	-	**4**	1	MEROPENEM	I/V	5 DAYS	2700 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	5 DAYS	2000MG	FEBRILE NEUTOPENIA	BSI	3	LIPOSOMAL AMPHOTERICIN B	I/V	2 DAYS	225 MG	FUNGAL PNEUMONIA	LRTI	4	VORICONAZOLE
116	996167	-	NOT SENT	-	PERITONEAL FLUID C/S	-	**1**	1	CEFTRIAXONE	I/V	14 DAYS	40 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117	996855	-	NOT SENT	-	NOT SENT	-	**3**	1	CEFTRIAXONE	I/V	8 DAYS	1700 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	8 DAYS	680 MG	SEPSIS	BSI	3	AZITHROMYCIN	P/O	6 DAYS	100 MG	SEPSIS	BSI	-	-
118	996861	KLEBSIELLA PNEUMONIAE, PSEUDOMONAS AERUGINOSA	PUS C/S	KLEBSIELLA PNEUMONIAE	NOT SENT	-	**6**	1	CEFTRIAXONE	I/V	14 DAYS	900MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	12 DAYS	400 MG	MENINGITIS	BSI	3	FLUCONAZOLE	I/V	7 DAYS	100 MG	FUNGAL SEPSIS	BSI	4	VORICONAZOLE
119	999398	-	NOT SENT	-	STOOL C/S	-	**1**	1	CEFOTAXIM	I/V	4 DAYS	250 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	999412	-	PUS C/S	STAPHYLOCOCCUS AUREUS (MSSA)	NOT SENT	-	**3**	1	CEFTRIAXONE	I/V	18 DAYS	200 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	18 DAYS	100 MG	SEPSIS	BSI	3	METRONIDAZOLE	I/V	10 DAYS	30 MG	SEPSIS	SSTI	-	-
121	992636	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFOTAXIM	I/V	10 DAYS	150 MG	SEPSIS	LRTI	2	AMIKACIN	I/V	7 DAYS	40 MG	SEPSIS	LRTI	-	-	-	-	-	-	-	-	-	-
122	1000609	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	11 DAYS	2000 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
123	1001065	ASPERGILLUS FLAVUS	NOT SENT	-	NOT SENT	-	**7**	1	CEFOTAXIM	I/V	3 DAYS	250MG	SEPSIS	IAI	2	AMIKACIN	I/V	3 DAYS	30 MG	SEPSIS	IAI	3	FLUCONAZOLE	I/V	5 DAYS	100 MG	THROMOCYTOPENIA	BSI	4	MEROPENEM
124	1001464	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	6 DAYS	600 MG	?SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	1001519	-	SENT	BURKHOLDERIA CEPACIA, KLEBSIELLA PNEUMONIAE,STAPHYLOCOCCUS AUREUS, E.COLI	NOT SENT	-	**4**	1	CEFUROXIME	I/V	12 DAYS	800 MG	SEPSIS	BSI	2	IMIPENEM	I/V	14 DAYS	800 MG	BLOOD C/S POSITIVE	BSI, CLABSI	3	COLISTIN	I/V	14 DAYS	0.6MU	BLOOD C/S POSITIVE	BSI	4	CEFEPIME+TAZOBACTAM
126	1001513	ACINETOBACTER BAUMANII	SENT	-	NOT SENT	-	**6**	1	CEFTRIAXONE	I/V	5 DAYS	2000 MG	SEPSIS	BSI	2	MEROPENEM	I/V	7 DAYS	3000 MG	SEPSIS	BSI	3	VANCOMYCIN	I/V	6 DAYS	2000 MG	BLOOD C/S POSITIVE	CLABSI	4	PIPERCALLIN+TAZOBATAM
127	1002193	-	NOT SENT	-	CSF C/S	-	**4**	1	CEFTRIAXONE	I/V	5 DAYS	2000 MG	SEPSIS	BSI	2	AZITHROMYCIN	P/O	5 DAYS	300 MG	PNEUMONIA	LRTI	3	VANCOMYCIN	I/V	4 DAYS	1200 MG	SEPSIS	BSI	4	FLUCONAZOLE
128	1002266	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	6 DAYS	300 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
129	1004558	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	7 DAYS	900 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-
130	1004886	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	4 DAYS	800 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
131	1005344	-	NOT SENT	-	NOT SENT	-	**1**	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
132	1005447	-	NOT SENT	-	NOT SENT	-	**2**	1	CEFTRIAXONE	I/V	7 DAYS	1300 MG	SEPSIS	BSI	2	AZITHROMYCIN	P/O	7DAYS	100 MG	PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-
133	1005527	-	NOT SENT	-	CSF C/S	-	**2**	1	CEFTRIAXONE	I/V	10 DAYS	1000 MG	? MENINGITIS	BSI	2	ACICLOVIR	I/V	10 DAYS	300 MG	?MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-
134	1006404	-	NOT SENT	-	NOT SENT	-	**2**	1	MEROPENEM	I/V	9 DAYS	2400 MG	? TOXIC SHOCK SYNDROME	BSI	2	VANCOMYCIN	I/V	9 DAYS	1600 MG	? TOXIC SHOCK SYNDROME	BSI	-	-	-	-	-	-	-	-	-	-
135	1007117	-	PUS C/S	STAPHYLOCOCCUS AUREUS	NOT SENT	-	**2**	1	CEFTRIAXONE	I/V	6 DAYS	3000 MG	GLUTAL ABSCESS	BSI	2	LINEZOLID	P/O	2 DAYS	600 MG	PUS C/S POSITIVE	SSTI	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
110	993367	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	975455	I/V	24 DAYS	400 MG	SEPSIS	LRTI,BSI	5	CASPOFUNGIN	I/V	24 DAYS	35 MG	SEPSIS	LRTI	6	IMIPENEM	I/V	7 DAYS	1950 MG	SEPSIS	LRTI,BSI	7	COLISTIN	I/V	6 DAYS	3MU	SEPSIS	BSI	-	-	-	-	-	-
112	992735	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
113	995178	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
114	995574	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
115	996344	I/V	3 DAYS	360 MG	FUNGAL SEPSIS	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
116	996167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117	996855	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
118	996861	P/O	8 DAYS	30 MG	FUNGAL SEPSIS	BSI,LRTI	5	PIPERACILLIN+TAZOBACTAM	I/V	18 DAYS	2700 MG	BAL C/S POSITIVITY	LRTI	6	TEICOPLANIN	I/V	10 DAYS	90 MG	PNEUMONIA	LRTI,BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
119	999398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120	999412	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
121	992636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
122	1000609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
123	1001065	I/V	4 DAYS	150 MG	SEPSIS	BSI	5	VANCOMYCIN	I/V	4 DAYS	100 MG	SEPSIS	BSI	6	AZITHROMYCIN	P/O	5 DAYS	100 MG	BRONCHOPNEUMONIA	LRTI,BSI	7	LINEZOLID	I/V	1 DAY	50 MG	FUNGAL SEPSIS	LRTI	-	-	-	-	-	-
124	1001464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
125	1001519	I/V	1 DAY	800 MG	BLOOD C/S POSITIVE	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
126	1001513	I/V	5 DAYS	12000 MG	BAL C/S POSITIVITY	VAP	5	METRONIDAZOLE	I/V	7 DAYS	1500 MG	SEPSIS	IAI	6	CEFOPERAZONE+SULBACTAM	I/V	7 DAYS	3000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	1002193	P/O	4 DAYS	200 MG	THROMBOCYTOPENIA	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
128	1002266	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
129	1004558	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
130	1004886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
131	1005344	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
132	1005447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
133	1005527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
134	1006404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135	1007117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
110	993367	-	-	-	-	-	-	-	-	YES	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
111	975455	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
112	992735	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
113	995178	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
114	995574	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
115	996344	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	YES	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
116	996167	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
117	996855	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
118	996861	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	YES	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
119	999398	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
120	999412	-	-	-	-	-	-	-	-	YES	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
121	992636	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
122	1000609	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
123	1001065	-	-	-	-	-	-	-	YES	-	-	-	-	YES	YES	NO	NO	DIED	YES	YES	NO	YES	YES	YES	YES	NO
124	1001464	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
125	1001519	-	-	-	-	-	-	-	-	YES	YES	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
126	1001513	-	-	-	-	-	-	-	-	YES	YES	-	YES	YES	YES	NO	YES	DIED	YES	YES	YES	YES	YES	YES	YES	YES
127	1002193	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DIED	YES	YES	NO	YES	YES	YES	YES	NO
128	1002266	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
129	1004558	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
130	1004886	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
131	1005344	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
132	1005447	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
133	1005527	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
134	1006404	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
135	1007117	-	-	-	-	-	-	-	-	YES	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES

Sr. No	MRD NO	AGE	SEX	DATE OF ADMISSION	DATE OF DISCHARGE/DAMA/DEATH	FINAL DIAGNOSIS	SYSTEM INVOLVED	INVESTIGATION															
								HEMOGLOBIN	TLC	NEUTROPHILS	LYMPHOCYTES	MONOCYTES	EOSINOPHILS	PLATELET COUNT	S.CREATININE	SGOT	SGPT	CRP QUANTITATIVE	BLOOD AND BODY FLUID CULTURE AND SENSITIVITY	URINE C/S	MICRO-ORGANISM IN URINE C/S	BLOOD C/S	MICRO-ORGANISM IN BLOOD C/S	RESPIRATORY C/S
136	1007436	12 YEAR	MALE	01-01-2020	08-01-2021	COMPLICATED ENETERIC FEVER WITH ? MENINGITIS WITH PANCYTOPENIA	GIT	9.3	1.2	84.2	10.7	5	0.1	220	0.5	151	29	54.02	BLOOD,CSF C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
137	963636	10 MONTHS	MALE	03-01-2021	06-01-2021	K/C/O NEUROBLASTOMA WITH AUTOLOGOUS STEM CELL TRANSPLANT WITH BLOOD C/S POSITIVE FOR KLEBSIELLA WITH SEPTIC SHOCK WITH RESPIRATORY FAILURE WITH ACUTE KIDNEY INJURY POST PERITONEAL DIALYSIS WITH CATECHOLAMINE RESISTANT SHOCK WITH ? VENO-OCCLUSIVE DISEASE	SEPSIS	12.9	4	40.6	43.9	14.7	0.5	14	0.25	58	22	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE, ASCITIC FLUID C/S: NO GROWTH	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
138	915600	1 YEAR	MALE	03-01-2021	13-01-2021	ACUTE DIARRHOEAL DISEASE WITH SEVERE DEHYDRATION WITH SEVERE METABOLIC ACIDOSIS WITH ACUTE KIDNEY INJURY WITH UREMIC ENCEPHALOPATHY WITH URINARY TRACT INFECTION WITH POST PERITONEAL DIALYSIS	GIT	9	16	55	40	3	2	512	3.04	-	-	17.74	URINE C/S: E.COLI, CSF C/S: NO GROWTH	SENT	E.COLI	NOT SENT	-	NOT SENT
139	1007987	14 YEARS	MALE	04-01-2021	13-01-2021	CENTRAL VENOUS SINUS THROMBOSIS WITH INFARCTS WITH HOMOCYSTINEMIA WITH VITAMIN B12 DEFICIENCY	CNS	10.7	11	87.7	9.4	2.7	0	334	0.53	28	25	18.48	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
140	952856	16 YEARS	MALE	02-01-2021	07-01-2021	K/C/O TTP WITH RELAPSE FOR PLASMAPHERESIS WITH B/L PLEURAL EFFUSION	RESPIRATORY	5.7	5.4	62.3	25.6	10.2	1.5	20	0.77	-	-	-	BLOOD AND URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
141	1009625	5 YEARS	FEMALE	07-01-2021	18-01-2021	ACUTE VIRAL HEPATITIS WITH HEPATIC ENCEPHALOPATHY GRADE 3 WITH ACUTE LIVER FAILURE WITH COAGULOPATHY	GIT	9.2	15	69.6	19.5	9.3	1.3	340	0.47	242	361	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
142	1011219	9 YEARS	MALE	11-01-2021	18-01-2021	MIS-C WITH SHOCK WITH RESPIRATORY DISTRESS WITH HYPOVITAMINOSIS D WITH HYPOTENSIVE SHOCK	CVS	10.7	16	85.8	6.5	7.5	0	282	0.91	32	13	156.94	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
143	1011404	11 YEARS	FEMALE	10-01-2021	28-01-2021	RHEUMATIC CARDITIS WITH CARDIOGENIC SHOCK WITH RESPIRATORY FAILURE WITH ARDS WITH CHF WITH MIS-C	CVS	9.5	11	83.5	13.2	3.1	0	338	0.62	3101	757	214.89	BLOOD AND BAL C/S: NO GROWTH	NOT SENT	-	SENT	-	BAL C/S
144	1011489	10 YEARS	MALE	11-01-2021	18-01-2021	SEVERE DIABETIC KETOACIDOSIS WITH RESPIRATORY DISTRESS	SEPSIS	16.3	19	78.6	13.4	7.7	0	200	0.87	18	20	5.73	BLOOD AND URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
145	1011812	2 MONTHS	MALE	12-01-2021	20-01-2021	ACUTE BRONCHOPNEUMONIA WITH RESPIRATORY FAILURE WITH ? PERTUSIS LIKE ILLNESS	RESPIRATORY	12	11	38	52	8	2	372	0.31	33	26	1	BLOOD AND BAL C/S: NO GROWTH	NOT SENT	-	SENT	-	BAL C/S
146	1010810	8 YEAR	MALE	09-01-2021	17-01-2021	RIGHT FOOT CELLULITIS WITH ACUTE KIDNEY INJURY WITH SEPSIS WITH POST OPERATIVE DEBRIDEMENT WITH POST SKIN GRAFTING WITH SCABIES POST COVID	SSTI	11.8	27	80.5	9.4	2.1	1.9	18	3.73	17	8	110.65	URINE, BLOOD, TISSUE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
147	1010916	3 YEAR	MA	10-01-2021	25-01-2021	POST OP CASE OF RUPTURED APPENDICITIS , APPENDICULAR PERFORATION WITH PERITONITIS	GIT	9.4	4	53	38	5	4	215	0.23	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
148	952856	16 YEARS	MALE	09-01-2021	11-01-2021	K/C/O THROMBOTIC THROMBOCYTOPENIC PURPURA WITH RELAPSE FOR PLASMAPHERESIS WITH B/L PLEURAL EFFUSION	SEPSIS	8.6	9.8	60.5	27.1	10.3	1.6	20	0.72	-	-	-	BLOOD AND URINE C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
149	354827	6 YEARS	MALE	08-01-2021	26-01-2021	STEROID RESISTANT NEPHROTIC SYNDROME WITH SEPSIS WITH FLUID OVERLOAD WITH ASCITES WITH HYPERTENSION WITH SEIZURES WITH PERITONITIS WITH DIFFUSE CEREBRAL ATROPHY	RENAL	7.2	27	89.6	9.4	0.9	0	716	0.59	27	8	68.61	BLOOD, URINE, CSF C/S: NO GROWTH, BAL C/S: ACINETOBACTER BAUMANII	SENT	-	SENT	-	BAL C/S
150	1012285	11 MONTHS	MALE	13-01-2021	02-02-2021	MIS-C WITH TOXIC SHOCK SYNDROME WITH RESPIRATORY FAILURE WITH RERACTORY SEIZURES WITH BLOOD C/S POSITIVE FOR CANDIDA CIFARI	SEPSIS	11.6	11	79.8	9.9	10.1	0.1	44	1.39	1411	2327	39.89	BLOOD C/S: CANDIDA CIFARI, BAL C/S: ACINETOBACTER BAUMANII, CENTRAL LINE TIP CULTURE : KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	CANDIDA CIFARI	BAL C/S
151	1012312	2 YEARS	MALE	13-01-2021	16-01-2021	ACUTE LIVER FAILURE WITH HEPATIC ENCEPHALOPATHY GRADE 3 WITH RESPIRATORY FAILURE	GIT	5.8	2.4	23.4	64.9	11.7	0	30	0.18	4804	3046	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
152	1013084	2 YEARS	MALE	15-01-2021	19-01-2021	A/H/O DOMESTIC FALL WITH MILD TRAUMATIC BRAIN INJURY WITH PARIETAL BONE FRACTURE	CNS	10.8	15	74.3	17.1	8.4	0.1	359	0.27	-	-	-	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
153	1013192	14 YEARS	MALE	16-01-2021	01-02-2021	ROADSIDE ACCIDENT WITH SEVERE TRAUMATIC BRAIN INJURY WITH RESPIRATORY FAILURE WITH SHOCK WITH BLOOD AND BAL C/S POSITIVE FOR KLEBSIELLA	CNS	10.2	14	83.1	5	11.9	8	148	0.79	92	38	-	BLOOD AND BAL C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	BAL C/S
154	1006689	5 MONTHS	MALE	11-01-2021	22-01-2021	LISSENCEPHALY WITH RECURRENT SEIZURES WITH REFRACTORY EPILEPSY	CNS	12.5	12	28.2	64.4	7.1	0.1	414	0.23	-	-	1.25	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
155	988609	6 YEARS	MALE	14-01-2021	19-01-2021	RELAPSED B CELL ACUTE LYMPHOBLASTIC LEUKEMIA WITH SEPSIS WITH ? NEUTROPENIC ENTEROCOLITIS WITH CATECHOLAMINE RESISTANT SHOCK WITH HYPOKALMEIA WITH PANCYTOPENIA WITHHYPOGLYCEMIA WITH SEVERE METABOLIC ACIDOSIS WITH PULMONARY HEMORRHAGE WITH RESPIRATORY FAILURE	SEPSIS	8.2	0.3	1	4	0	0	14	0.41	38	32	-	BLOOD C/S: KLEBSIELLA PNEUMONIAE	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	NOT SENT
156	1015011	16 YEAR	MALE	20-01-2021	27-01-2021	NEW ONSET TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KETOACIDOSIS WITH BRACHIAL PLEXOPATHY? IDIOPATHIC	CNS	14.5	18	73	17.8	8.8	0.3	207	0.97	17	42	13.82	URINE C/S: NO GROWTH	SENT	-	NOT SENT	-	NOT SENT
157	1015653	1 YEAR	FEMALE	21-01-2021	24-01-2021	ACUTE BRONCHIOLITIS WITH UNDERLYIG MULTI TRIGGER WHEEZE WITH PROTEIN ENERGY MALNUTRITION GRADE 2	RESPIRATORY	11.1	16	78.7	14	5.7	1.5	275	0.23	22	20	2.23	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
158	1016044	12 YEARS	MALE	22-01-2021	29-01-2021	NEWLY DIAGNOSED TYPE 1 DIABETES MELLITUS WITH SEVERE DIABETIC KEOACIDOSIS WITH HYPOTHYROIDISM	SEPSIS	15.2	32	87.5	8.8	3.7	0	348	0.81	13	19	13.32	URINE AND BLOOD C/S: NO GROWTH	SENT	-	SENT	-	NOT SENT
159	957296	10 YEAR	MALE	26-01-2021	30-01-2021	SEVERE APLASTIC ANEMIA POST BONE MARROW TRANSPLANT WITH GRAFT REJECTION WITH SEPSIS WITH SEPTIC SHOCK	SEPSIS	14.5	3.6	21.5	68.6	8.6	0.1	8	0.76	-	-	-	BLOOD C/S: STAPHYLOCOCCUS AUREUS (MRSA)	NOT SENT	-	SENT	STAPHYLOCOCCUS AUREUS (MRSA)	NOT SENT
160	996861	11 MONTHS	MALE	28-01-2021	01-02-2021	ACUTE MENINGITIS WITH SEIZURES WITH DIFFUSE CEREBRAL VENOUS SINUS THROMBOSIS WITH INFARCTS WITH IRON DEFICIENCY ANEMIA WITH ICH WITH MIDLINE SHIFT POST TRACHEOSTOMY, AMPUTATION B/L FORE FOOT ,VAP	CNS	7.2	14	54.2	38	7	0.4	457	0.16	29	7	83.13	BAL , WOUND,BLOOD C/S: KLEBSIELLA PNEUMONIAE, BAL C/S: PSEUDOMONAS AERUGINOSA	NOT SENT	-	SENT	KLEBSIELLA PNEUMONIAE	BAL C/S
161	1019048	6 MONTHS	FEMALE	29-01-2021	30-01-2021	TUBERCULAR MENINGITIS	CNS	10.8	18	53.5	36.1	10	0.1	559	0.12	57	78	83.76	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT
162	1020112	14 YEAR	FEMALE	30-01-2021	02-02-2021	MIS-C WITH RESPIRATORY FAILURE WITH SEPTIC ENCEPHALOPATHY	SEPSIS	9.2	6.5	95.7	2.4	1.6	0.2	150	0.93	-	-	308.59	BLOOD C/S: NO GROWTH	NOT SENT	-	SENT	-	NOT SENT

		CULTURES																												
Sr. No	MRD NO	MICRO-ORGANSIM IN RESPIRATORY C/S	PUS C/S	MICRO-ORGANISM IN PUS C/S	BODY FLUID C/S	MICRO-ORGANSIM IN BODY FLUID C/S	Total no. of antibiotics	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG
136	1007436	-	NOT SENT	-	CSF C/S	-	2	1	CEFTRIAXONE	I/V	7 DAYS	4000 MG	ENTERIC FEVER	BSI	2	AZITHROMYCIN	P/O	5 DAYS	400 MG	ENTERIC FEVER	BSI	-	-	-	-	-	-	-	-	-
137	963636	-	NOT SENT	-	ASCITIC FLUID	-	5	1	TIGECYCLINE	I/V	10 DAYS	100 MG	SEPSIS	BSI	2	COLISTIN	I/V	10 DAYS	0.7 MU	SEPSIS	BSI	3	VORICONAZOLE	I/V	6 DAYS	100 MG	SEPSIS	BSI	4	CIPROFLOXACIN
138	915600	-	NOT SENT	-	CSF C/S	-	1	1	CEFOPERAZONE+SULBACTAM	I/V	10 DAYS	600 MG	URINARY TRACT INFECTION	CAUTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
139	1007987	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	10 DAYS	2000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	952856	-	NOT SENT	-	NOT SENT	-	1	1	CEFEPIME+TAZOBACTAM	I/V	9 DAYS	4000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141	1009625	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	12 DAYS	1500 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
142	1011219	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	8 DAYS	2000 MG	? TOXIC SHOCK SYNDROME	BSI	2	AZITHROMYCIN	P/O	6 DAYS	200 MG	? PNEUMONIA	LRTI	-	-	-	-	-	-	-	-	-	-
143	1011404	-	NOT SENT	-	NOT SENT	-	5	1	CEFTRIAXONE	I/V	5 DAYS	2500MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	4 DAYS	100 MG	SEPSIS	BSI	3	AZITHROMYCIN	P/O	7 DAYS	250 MG	SEPSIS	LRTI	4	PIPERCALLIN+TAZOBATAM
144	1011489	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	7 DAYS	3500 MG	? SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145	1011812	-	NOT SENT	-	NOT SENT	-	3	1	VANCOMYCIN	I/V	7 DAYS	300 MG	PNEUMONIA	LRT	2	MEROPENEM	I/V	7 DAYS	500 MG	PNEUMONIA	LRTI	3	ROXITHROMYCIN	P/O	9 DAYS	30 MG	PNEUMONIA	LRTI	-	-
146	1010810	-	NOT SENT	-	TISSUE C/S	-	5	1	CEFTRIAXONE	I/V	8 DAYS	3500 MG	SEPSIS	BSI	2	TEICOPLANIN	I/V	10 DAYS	400 MG	CELLULITIS	BSI	3	MEROPENEM	I/V	1 DAY	2100 MG	SEPSIS	BSI	4	VANCOMYCIN
147	1010916	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	10 DAYS	1500 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
148	952856	-	NOT SENT	-	NOT SENT	-	1	1	CEFEPIME+TAZOBACTAM	I/V	9 DAYS	4000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
149	354827	ACINETOBACTER BAUMANII	NOT SENT	-	CSF C/S	-	4	1	TEICOPLANIN	I/V	10 DAYS	170 MG	SEPSIS	BSI	2	VORICONAZOLE	I/V	10 DAYS	130 MG	SEPSIS	BSI	3	TIGECYCLINE	I/V	14 DAYS	170 MG	SEPSIS	BSI	4	POLYMIXIN B
150	1012285	ACINETOBACTER BAUMANII	NOT SENT	-	CENTRAL LINE TIP CULTURE	KLEBSIELLA PNEUMONIAE	5	1	MEROPENEM	I/V	14 DAYS	3000 MG	SEPSIS	BSI	2	VANCOMYCIN	I/V	14 DAYS	2000 MG	SEPSIS	BSI	3	ACICLOVIR	I/V	10 DAYS	1000 MG	SEPSIS	BSI	4	AZITHROMYCIN
151	1012312	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	4 DAYS	1000 MG	SEPSIS	IAI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
152	1013084	-	NOT SENT	-	NOT SENT	-	1	1	CEFUROXIME	I/V	5 DAYS	100 MG	BONE FRACTURE	SSTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
153	1013192	KLEBSIELLA PNEUMONIAE	NOT SENT	-	NOT SENT	-	5	1	CEFUROXIME	I/V	5 DAYS	1500 MG	SEPSIS	BSI,LRTI	2	CEFEPIME+TAZOBACTAM	I/V	5 DAYS	4 GM	SEPSIS	BSI,LRTI	3	COLISTIN	I/V	14 DAYS	2 MU	SEPSIS	BSI,LRTI	4	MEROPENEM
154	1006689	-	NOT SENT	-	NOT SENT	-	2	1	CEFTRIAXONE	I/V	7 DAYS	1000 MG	? MENINGITIS	BSI	2	ACICLOVIR	I/V	7 DAYS	300 MG	? MENINGITIS	BSI	-	-	-	-	-	-	-	-	-
155	988609	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	4 DAYS	2000 MG	SEPSIS	BSI,IAI	2	VANCOMYCIN	I/V	4 DAYS	1500 MG	SEPSIS	BSI,IAI	-	-	-	-	-	-	-	-	-	-
156	1015011	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	7 DAYS	2000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	1015653	-	NOT SENT	-	NOT SENT	-	1	1	CEFOTAXIM	I/V	2 DAYS	800 MG	BRONCHIOLITIS	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
158	1016044	-	NOT SENT	-	NOT SENT	-	1	1	CEFTRIAXONE	I/V	7 DAYS	3000MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
159	957296	-	NOT SENT	-	NOT SENT	-	6	1	TEICOPLANIN	I/V	14 DAYS	400 MG	SEPSIS	BSI	2	IMIPENEM	I/V	10 DAYS	1000MG	SEPSIS	IV	3	CIPROFLOXACIN	I/V	10 DAYS	300 MG	SEPSIS	BSI	4	COLISTIN
160	996861	KLEBSIELLA PNEUMONIAE, PSEUDOMONAS AERUGINOSA	PUS C/S	KLEBSIELLA PNEUMONIAE	NOT SENT	-	6	1	CEFTRIAXONE	I/V	14 DAYS	900MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	12 DAYS	400 MG	MENINGITIS	BSI	3	FLUCONAZOLE	I/V	7 DAYS	100 MG	FUNGAL SEPSIS	BSI	4	VORICONAZOLE
161	1019048	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	2 DAYS	600 MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	2 DAYS	400 MG	MENINGITIS	BSI	-	-	-	-	-	-	-	-	-	-
162	1020112	-	NOT SENT	-	NOT SENT	-	2	1	MEROPENEM	I/V	3 DAYS	3000 MG	MENINGITIS	BSI	2	VANCOMYCIN	I/V	3 DAYS	1500 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-

		Antimicrobials received after admission																																	
Sr. No	MRD NO	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION	S.NO	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	TYPE OF INFECTION
136	1007436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
137	963636	I/V	7 DAYS	200 MG	SEPSIS	BSI	5	METRONIDAZOLE	I/V	5DAYS	100 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	915600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
139	1007987	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
140	952856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141	1009625	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
142	1011219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
143	1011404	I/V	10 DAYS	7500 MG	SEPSIS	BSI	5	CLINDAMYCIN	I/V	9 DAYS	700 MG	FUNGAL SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
144	1011489	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
145	1011812	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
146	1010810	I/V	1 DAY	1400 MG	SEPSIS	BSI	5	METRONIDAZOLE	I/V	8 DAYS	350 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
147	1010916	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
148	952856	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
149	354827	I/V	14 DAYS	1000 MG	SEPSIS	LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	1012285	P/O	5 DAYS	500 MG	SEPSIS	BSI	5	VORICONAZOLE	P/O	10 DAYS	200 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
151	1012312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
152	1013084	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
153	1013192	I/V	14 DAYS	2000 MG	SEPSIS	BSI,LRTI	5	FLUCONAZOLE	I/V	14 DAYS	150 MG	SEPSIS	BSI,LRTI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
154	1006689	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
155	988609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
156	1015011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
157	1015653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
158	1016044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
159	957296	I/V	10 DAYS	2 MU	SEPSIS	BSI	5	VORICONAZOLE	P/O	7 DAYS	150 MG	SEPSIS	BSI	6	VALACYCLOVIR	P/O	5 DAYS	1000 MG	SEPSIS	BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
160	996861	P/O	8 DAYS	30 MG	FUNGAL SEPSIS	BSI,LRTI	5	PIPERACILLIN+TAZOBACTAM	I/V	18 DAYS	2700 MG	BAL C/S POSITIVITY	LRTI	6	TEICOPLANIN	I/V	10 DAYS	90 MG	PNEUMONIA	LRTI,BSI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
161	1019048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
162	1020112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								INDICATION								Factors leading to non adherence to Antimicrobial Stewardship Program		Outcome	For ensuring proper implementation of antibiotic stewardship program							
Sr. No	MRD NO	S.NO.	NAME OF DRUG	ROUTE	DURATION OF THERAPY	DEFINED DAILY DOSAGE	INDICATION	URTI	LRTI	SSTI	CLABSI	CAUTI	VAP	BSI	IAI	Physician Discretion / Preference	Already receiving broad spectrum antibiotics prior to admission	Physician/Clinician apprehension regarding antibiotic coverage due to extreme sickness of patient	Ensuring proper documentation of dose, duration and indication of antimicrobial use	Defining crieteria for deciding escalation or de-escalation of Antimicrobial	Use of Antimicrobial stewardship program indicated antimicrobial	Review of antibiotic susceptibility in the area	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'	Review of antimicrobial prescription at proper timings	Proper follow up of sent cultures	Appropriate upgradation of antimicrobials done or not?
136	1007436	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
137	963636	-	-	-	-	-	-	-	YES	-	YES	-	-	YES	YES	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
138	915600	-	-	-	-	-	-	-	-	-	-	YES	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
139	1007987	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
140	952856	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
141	1009625	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
142	1011219	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
143	1011404	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
144	1011489	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
145	1011812	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
146	1010810	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
147	1010916	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
148	952856	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
149	354827	-	-	-	-	-	-	-	YES	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
150	1012285	-	-	-	-	-	-	-	YES	-	YES	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
151	1012312	-	-	-	-	-	-	-	-	-	-	-	-	-	YES	NO	NO	DAMA	YES	YES	NO	YES	YES	YES	YES	NO
152	1013084	-	-	-	-	-	-	-	-	YES	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
153	1013192	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
154	1006689	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
155	988609	-	-	-	-	-	-	-	-	-	-	-	-	YES	YES	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
156	1015011	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
157	1015653	-	-	-	-	-	-	-	YES	-	-	-	-	-	-	NO	NO	IMPROVED	YES	YES	NO	YES	YES	YES	YES	NO
158	1016044	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
159	957296	-	-	-	-	-	-	-	YES	-	-	-	-	YES	YES	NO	NO	DIED	YES	YES	YES	YES	YES	YES	YES	YES
160	996861	-	-	-	-	-	-	-	YES	-	-	-	YES	YES	-	NO	YES	IMPROVED	YES	YES	YES	YES	YES	YES	YES	YES
161	1019048	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES
162	1020112	-	-	-	-	-	-	-	-	-	-	-	-	YES	-	NO	NO	DAMA	YES	YES	YES	YES	YES	YES	YES	YES

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Date 9/9/19

The Principal,
DMC, Ludhiana.

Subject: Approval of Plan of Thesis.

This is to inform you that the Faculty of Medical Sciences in its meeting held on 29.05.2019 has approved the plan of thesis of **Alka**, a student of your college for **MD Paediatrics** along with the names of Supervisor/Co-Supervisor as under:-

Topic Plan of Thesis

Comparison of antimicrobial prescription pattern in admitted children before and after implementing antimicrobial stewardship program

Supervisor
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The student has to submit the four copies of thesis (along with PDF format) , to the Controller of Examinations, BFUHS, Faridkot, at least six months before the commencement of theory examination, if he/she is otherwise eligible to take the examination. He /She must directed to attach a photocopy of this letter with the forwarding letter while submitting thesis to the University along with the letter of approval of University for change of supervisor/Co-Supervisor, change of topic,(if any).

S P Singh

Dr. S P Singh MS(Oph)
Controller of Examinations

Note :

1. *If any discrepancy found regarding topic of thesis or Supervisor/Co-Supervisor, inform undersigned within one month after issue of this letter.*
2. *The student may submit the thesis as per the schedule already conveyed i.e for May/June examination 30th Nov of the preceding the year of examination and for Nov/Dec examinations 31st May of the year of examination.*

COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM

THESIS PROPOSAL

FOR APPROVAL OF SUBJECT OF THESIS TO BE SUBMITTED

IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

Doctor of Medicine/ Master of Surgery

in

PEDIATRICS

OF THE

BABA FARID UNIVERSITY OF HEALTH SCIENCES
FARIDKOT

NOVEMBER, 2018

DR. ALKA

DEPARTMENT OF PEDIATRICS
DAYANAND MEDICAL COLLEGE AND HOSPITAL
LUDHIANA

ABSTRACT OF PLAN OF THESIS

Title	COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM
For the degree of	M.D. PEDIATRICS
Name of the candidate	Dr Alka
Supervisor	Dr Siddharth Bhargava Associate Professor Department of Pediatrics
Co-supervisor	Dr Sandeep Kaushal Professor & Head Department of Pharmacology
Co-supervisor	Dr Deepinder Kaur Professor & Head Department of Microbiology
Institution	Dayanand Medical College & Hospital, Ludhiana
University	Baba Farid University of Health Sciences, Faridkot

Introduction: Rising concerns about the antimicrobial resistance and inadequate development of effective new anti infective drugs have stimulated universal efforts to strengthen the infection control interventions. Antimicrobial Stewardship is a rational, systematic approach to promote the optimal selection, dosing and duration of therapy for antimicrobial agents throughout the course of their use in order to improve the outcomes.

Aims of Study: This study is planned to compare antimicrobial use before and after implementing Antimicrobial Stewardship Program.

Material & Methods:
-Prospective observational study before and after intervention, to be conducted in Pediatric ICU.
-To observe the pattern of antibiotic prescription during the first 5 months of study period.
- To formulate an antibiotic policy to be followed for next 5 months period and observe antibiotic usage during those 5 months study period.
-Finally to compare the pattern of antibiotic usage before and after implementation of Antimicrobial Stewardship Program.

Clinical Significance: Antimicrobial Stewardship is a prominent part of local and national efforts to contain and reverse antimicrobial resistance.

Keywords: Antimicrobial Prescription, Antimicrobial Stewardship Program.

(Signature)	(Signature)	(Signature)	(Signature)	(Signature)
Candidate	Co-supervisor	Co-supervisor	Supervisor	Principal

CERTIFICATE OF FACILITIES AVAILABLE

This is to certify that the facilities for work on the subject of thesis titled **"COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM"** exist in the Department of Pediatrics, DMC&H, Ludhiana and will be provided to the candidate. We will see that the data being included in the thesis is genuine and is collected by the candidate himself/herself under our supervision and guidance.

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APPROVAL PROFORMA
BY
RESEARCH & ETHICAL COMMITTEE
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Likely date of appearing in PG examination	May 2021
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2. HOD Surgery	2. HOD Pathology
3. HOD Pathology	3. HOD Pharmacology
4. HOD Medicine	4. HOD SPM
5. Dean Academics	5. HOD Medicine
6. Vice Principal	6. HOD Surgery
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	10. Dean Academics
	11. Vice Principal
	12. Principal

Approved: Yes / No

Chairperson
Research Committee

Chairperson
Research Committee

Approved: Yes / No

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Ethics Committee

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BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

PROFORMA FOR REGISTRATION OF SUBJECT FOR DISSERTATION

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2	NAME OF THE INSTITUTE	Dayanand Medical College and Hospital, Ludhiana
3	COURSE OF STUDY AND SUBJECT	MD Pediatrics
4	DATE OF ADMISSION OF COURSE	09-05-2018
5	TITLE OF THE TOPIC	COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM

6. BRIEF RESUME OF THE INTENDED WORK

6.1 NEED FOR THE STUDY

Medicines have a vital role in health care systems and disease prevention. The availability and affordability of good quality drugs along with rational prescribing is the need of the hour worldwide and especially in a developing country like India. Although the paradigm shift from empirical approach to evidence based medicine is a reality in the western countries, India is still lagging behind. A meticulous review of the existing literature reveals the problem of irrationality in prescribing is still prevalent in the developing countries because of their empirical approach compounded by economic constraints of the patients.[1]

In recent years, pharmaco epidemiological studies have taken centre stage & aided in rational use of drugs in the complex health care delivery systems present in our society. World Health Organization (WHO) that provides objective indices to allow for assessment of drug use practices and suggesting remedial measures. Also, the WHO reports that more than half of all medicines that are prescribed, dispensed or sold are inappropriate and that half of all patients fail to take them correctly.[2]

Antibiotics are among the most commonly prescribed drug in pediatrics. Because of an overall rise in health care costs, lack of uniformity in drug prescribing and the emergence of antibiotic resistance, monitoring and control of antibiotic use are of growing concern and strict antibiotic policy should be warranted.

The use of antimicrobial agents, especially antibiotics has become a routine practice for the treatment of pediatric illness like fever, UTI, gastroenteritis, skin infections, LRTI, URTI.

Prescription pattern analysis oversees the observance of standards of medical treatment at all levels of healthcare delivery system.

The pediatric population comprise of 20-25 percent of total world population, and numerous acute and chronic diseases can affect this sub population. Premature neonates have poorly developed organ functions and are at highest risk of eliciting unexpected toxicity or poor clinical response from suboptimal dosage regimens of drug usage.

Physicians are the health professionals who are primarily responsible for treatment and to know about their prescribing practices can contribute to the achievement of initiatives and regulations relevant. Monitoring of antimicrobial use and knowledge of prescription habit are the strategies recommended to contain resistance to antimicrobials in hospitalized patients.

Prescribing drugs is an important skill which needs to be continuously assessed and refined accordingly. It not only reflects the physician's knowledge of pharmacology and pathophysiology but also the skill in diagnosis and attitude towards selecting the most appropriate cost effective treatment.

Evaluation of prescribing pattern will also help in minimizing adverse drug reaction as children are more susceptible to them and it shall also aid in providing cost effective medical care.

In order to be rational, use of a drug must be effective, safe, prescribed for the proper therapeutic indication and the correct dosage in an appropriate

formulation, easily available and of a reasonable cost. It is estimated that 20-50% of all antibiotic use is inappropriate resulting in an increased side effects, higher cost, higher rates of resistance in community pathogens.

Rational use of drugs is the corner stone of successful implementation of rational use of medicines. Selecting appropriate antibiotic for infection and educating parents about the importance of taking therapy exactly prescribed are considered areas for improvement needed.

Prescribing the drugs is an important skill which needs to be continuously assessed and refined accordingly. Commonly the prescription behavior is influenced by many factors like an ethical drug promotion, lack of knowledge, direct to consumer advertising non availability of drugs. So there is a chance of irrational drugs in the prescription. The assessment of prescription will help us to know the attitude of physicians towards prescribing and to provide rationality in the prescription.

This rationality of prescription will help the physician to upgrade the knowledge and improves the attitude towards selecting the most appropriate cost effective treatment.

Increased resistant species and decreased efficiency of antibiotics cause enormous costs in health systems. The main objective of this study is to evaluate the prescribing pattern of antibiotics in pediatric patients of PICU, to evaluate whether prescription is rational or irrational. Findings of this study are expected to provide relevant information to pediatricians as well as general practitioners.

6.2 REVIEW OF LITERATURE

The problem of antibiotic resistance is increasingly globally. In Taiwan, For Example, the excessive use of antimicrobials is very prevalent[3], and the rate of antibiotic resistance is one of the highest in the world.[4-7] While a large number of studies of Antibiotic Stewardship Program have been conducted in adults, there have been relatively few studies conducted in pediatric settings, and it is important to add to the evidence base for support and promotion of pediatric ASP studies.

Studies have shown that post prescription review program has reduced the antimicrobial use significantly even with highly restrictive prior approval program in place.[8]

Correct diagnosis of a disease and its management with medicines, constitute important aspects of patient care which is even more important in case of pediatric patients. For this it is very prudent to study the prescribing practice in pediatric patients in order to find out the deficiencies, if any and suggest remedial measures to overcome the same. In one of the earliest studies, Jhaj et al[9] studied the drug utilization pattern in pediatric ambulatory patients prospectively using the recommended WHO prescribing indicators like average number of drugs prescribed, percentage of drugs by generic name, adherence to the National List of Essential Medicines(NLEM-2011), percentage of antimicrobials and injections prescribed.[10] They found that use of vitamins and minerals was disproportionately high (20.1%) when compared to the number of cases of anaemia (2.3%) and malnutrition(2.6%). Barring the frequent use of supplements and low rate of generic prescribing, prescribing trends were found to be in line with the current trends in the study population.

Later on in 2005 Karande's study in a medical college hospital in Mumbai revealed that the average number of drugs per encounter was 2.9; higher when compared to Jhaj's study where it was within an acceptable limit of 1.3.Although a high proportion (90.3%) of the drug prescribed confirmed to a model list of essential drugs, interventions to rectify over prescription of antibiotics and syrup formulations and inadequate labeling of drugs were found to be on the higher side.[9]

A 2006 study at Manipal college of Medical Sciences, showed the average number of drugs per prescription was on the higher side (4.57).The percentage of antibiotics was 69% of the total prescriptions audited and the use of parenteral preparations were high. The authors concluded that prescribing by generic name should be encouraged and treatment guidelines for common conditions should be formulated.[11]

A 2007 drug utilization study in a neonatology unit found the average number of drugs per prescription to be 4.8.Although it was high, it was attributed to the intensive care set up and large number of sepsis cases which is difficult to treat as previously described. As antibiotics were the most frequently used drugs, their usage was analyzed in all cases. It was found to be rational in 84% of suspected septicemia cases, as the provisional diagnosis on admission was confirmed with subsequent investigations thereby justifying appropriate antibiotic therapy. The authors concluded by recommending an antibiotic usage policy for the unit depending on the local microbial sensitivity pattern.[12]

Dimri et al in 2009 audited 254 prescriptions from a teaching hospital in north India. The authors concluded that prescribing from NLEM was fair, the use of

injections was low and there was scope for improvement in case of medicines prescribed by generic name.[13]

In 2010, Pandey et al studied the prescription pattern to find out the prevalent prescribing errors in patients presenting to four different community pharmacies in Nagpur city. The authors found that the fixed dose combination dominated majority of the prescription, many of which were found to be irrational. The prescribing pattern also indicated polypharmacy with the average number of drugs per encounter of 2.5. The prescription error score varied significantly across prescriber profiles. The findings of the study highlighted the continuing crisis of the irrational drug prescribing trends present in the country.[14]

In aug 2018 , Aizawa Y et al conducted a study in pediatric intensive care unit and concluded that applying antimicrobial stewardship program lead to a significant decrease in level and trend of days of therapy per 1000 patient days for antipseudomonal agents and no increase in adverse patient outcomes.[15]

In study conducted by Patel et al to find the impact of pediatric antimicrobial stewardship programmes on patient outcomes, it was found that there was sustainable reduction in antimicrobial prescribing, as well as reduction in resistance rates at population level, with no evidence of an increase in rate of serious infection or bacterial complication.[16]

In Oct 2018, McCarthy KN conducted a study about antibiotic stewardship in neonatal unit and the data collected provided useful insight into the trends of antibiotic use and helped in informing the clinicians of potential areas where antibiotic use may be safely reduced.[17]

Singer et al conducted a study in primary care about the factors associated with inappropriate antimicrobial prescription and found that there was high frequency of potentially inappropriate antimicrobial prescription which suggests the need of antibiotic stewardship program .[18]

Morris explained in a study that antimicrobial stewardship is a young field, with much room for growth, and with tremendous opportunity to improve healthcare. However, as Mc Gowan points out in his definitive 2011 review of the limitations of contemporary research in antimicrobial stewardship, the opportunities lie in focusing on outcomes.[19,20]

6.3 AIMS AND OBJECTIVES OF THE STUDY

- To compare the antimicrobial prescribing practices in admitted children to the hospital before and after applying antimicrobial stewardship.
- To study the factors hindering implementation of Antimicrobial Stewardship leading to non compliance to protocolised antimicrobial policy.

7. MATERIALS AND METHODS

Prospective observational study before and after intervention in Pediatric ICU.

7.1 Source of Data

Case files of all the patients admitted in Pediatric ICU.

7.2 METHOD OF COLLECTION OF DATA

Prospective observational study before and after intervention. Data will be collected from the case files of patients and will be included after taking proper consents from the patient.

INCLUSION CRITERIA

- Patients admitted in Pediatric ICU receiving antimicrobials either from outside or started on antimicrobials in DMCH.

EXCLUSION CRITERIA

- Neonates
- Patients not receiving any antibiotics
- Immunocompromised patients.
- OPD and pediatric ward patients on antibiotics.

DURATION OF STUDY: 12 months

STATISTICAL ANALYSIS

Data will be described in terms of range; mean ±standard deviation (± SD), median, frequencies (number of cases) and relative frequencies (percentages) as appropriate. Comparison of quantitative variables between the study groups will be done using Student t-test and Mann Whitney U test for independent samples for parametric and non-parametric data respectively. For comparing categorical data, Chi square ($\chi 2$) test will be performed and exact test was used when the expected frequency is less than 5. A probability

value (p value) less than 0.05 will be considered statistically significant. All statistical calculations will be done using SPSS (Statistical Package for the Social Science) SPSS 21 version statistical program for Microsoft Windows. For studying factors affecting non adherence to antimicrobials descriptive statistical analysis will be applied.

7.3 DOES THE STUDY REQUIRE ANY INVESTIGATIONS OR INTERVENTIONS TO BE CONDUCTED ON PATIENTS OR OTHER HUMANS OR ANIMALS? IF SO, PLEASE DESCRIBE BRIEFLY.

Antimicrobial Stewardship Program implementation

7.4 HAS ETHICAL CLEARANCE BEEN OBTAINED FROM YOUR INSTITUTION IN CASE OF 7.3?

Yes

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PROFORMA

Sr No.-

Demographic Details:

Name-

Age(Years/ months)-

Sex (M/F)-

Address:

MRD No.-

Date of Admission:

Date of Discharge/ DAMA/ Death:

Final Diagnosis:

Investigations:

Lab	Reference Range	Value
Hemoglobin	12.0-17.0 (gm/dl)	
TLC	4.0-10.0(10^3/ul)	
Neutrophils	40.0-70.0(%)	
Lymphocytes	20.0-40.0(%)	
Monocytes	2.0-10.0(%)	
Eosinophils	0.0-5.0(%)	
Platelet count	150.0-450.0(10^3/ul)	
S. creatinine	0.7-1.2(mg/dl)	
SGOT	0.0-40.0(U/L)	
SGPT	0.0-41.0(U/L)	
CRP Quantitative	0.0-6.0(mg/l)	
Blood and body fluid culture and Sensitivity		

Signature of Candidate **Signature of Supervisor**

Antimicrobials received from outside before admission (if applicable):

S.No.	Name of Drug	Route	Duration Of therapy	DDD (Defined Daily Dosage)	Indication	Type of infection

Antimicrobials received after admission:

S.No.	Name of Drug	Route	Duration of therapy	DDD (Defined Daily Dosage)	Indication	Type of infection

Signature of Candidate

Signature of Supervisor

Indications:

1). URTI
2). LRTI
3). SSTI
4). CLABSI
5). CAUTI
6). VAP
7). BSI
8). IAI

Outcome:

Cured/Improved/ Discharged on Request/ DAMA/Absconded/ Expired

Signature of Candidate **Signature of Supervisor**

PROFORMA

(For ensuring proper implementation of antibiotic stewardship program)

	STEPS TAKEN	Yes	No
1	Ensuring proper documentation of dose, duration and indication of antimicrobial use		
2	Defining crieteria for deciding escalation or de-escalation of Antimicrobial		
3	Use of Antimicrobial stewardship program indicated antimicrobial		
4	Review of antibiotic susceptibility in the area		
5	Performing ' Antimicrobial Time Out' , 'Antimicrobial cycling'		
6	Review of antimicrobial prescription at proper timings		
7	Proper follow up of sent cultures		

Signature of Candidate **Signature of Supervisor**

INFORMED PATIENT CONSENT

Date: _____

I.....D/o, W/o, S/o.....

.....am willing to participate in the study **"COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM"** The procedure with its complications has been explained to me in local vernacular language. I have fully understood that no special tests and extra expenditure in any form, merely for the purpose of thesis is being carried out. I am free to opt out the study any time without assigning any reason.

.....
Signature of the Witness

Name:

.....
Signature of the patient

Signature of Candidate

Signature of Supervisor

मरीज अनुमति फार्म

तिथि _____

मैं _____ पत्नी/पुत्र/पुत्री _____

निवासी _____

इस शोधकार्य **"COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM"** में भाग लेने के लिए सहमत हूँ। मैं इस शोधकार्य में भाग लेने के लिए अपनी स्वेच्छा से तैयार हूँ। मैं पुष्टि करता/करती हूँ की यह स्वीकृति देने के लिए मुझे कोई आर्थिक प्रलोभन नहीं दिया गया और न ही दबाव डाला गया है। मुझे इस शोधकार्य का उद्देश्य स्पष्ट कर दिया गया है और मुझे यह विश्वास है की यह विज्ञान और मानवता के लाभ के लिए है। मुझे इस शोधकार्य में होने वाले जोखिम के बारे में समझा दिया गया है और मेरी समझ में यह जोखिम बहुत मामुली है।

मैं इस शोधकार्य में भाग लेने के सम्बन्ध में किसी भी समय अपनी अस्वीकृति व्यक्त कर सकता/सकती हूँ और मेरे अस्वीकृति व्यक्त करने का मेरे इलाज पर कोई प्रभाव नहीं पड़ेगा।

_____

गवाह के हस्ताक्षर

नाम:

_____

रोगी के हस्ताक्षर/अंगूठे का निशान

नाम:

_____

अन्वेषक के हस्ताक्षर

_____

विद्यार्थी के हस्ताक्षर

ਮਰੀਜ਼ ਰਜ਼ਾਮੰਦੀ ਫਾਰਮ

ਮਿਤੀ_____

ਮੈ_____ਪਤਨੀ/ਪੁੱਤਰ/ਪੁੱਤਰੀ_____

ਵਾਸੀ _____

"COMPARISON OF ANTIMICROBIAL PRESCRIPTION PATTERN IN ADMITTED CHILDREN BEFORE AND AFTER IMPLEMENTING ANTIMICROBIAL STEWARDSHIP PROGRAM" ਤੇ ਚਲ ਰਹੀ ਖੋਜ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਰਜ਼ਾਮੰਦ ਹਾਂ। ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਲਈ ਮੈ ਆਪਣੀ ਮਰਜ਼ੀ ਨਾਲ ਤਿਆਰ ਹਾਂ। ਮੈ ਇਹ ਦਸਣਾ ਚਾਹੁੰਦਾ ਹਾਂ/ ਚਾਹੁੰਦੀ ਹਾਂ ਕੇ ਇਹ ਰਜ਼ਾਮੰਦੀ ਦੇਣ ਵਾਸਤੇ ਮੈਨੂ ਕਿਸੇ ਵੀ ਤਰਾਂ ਦਾ ਲੋਭ-ਲਾਲਚ ਨਹੀ ਦਿੱਤਾ ਗਿਆ ਅਤੇ ਨਾ ਹੀ ਕੋਈ ਦਬਾ ਪਾਇਆ ਗਿਆ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਦਾ ਮਨੋਰਥ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਭਰੋਸਾ ਦਵਾਇਆ ਗਿਆ ਹੈ ਕੇ ਇਹ ਖੋਜ ਵਿਗਿਆਨ ਅਤੇ ਮਾਨਵਤਾ ਦੀ ਭਲਾਈ ਲਈ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਵਿਚ ਹੋਣ ਵਾਲੇ ਖਤਰੇ ਬਾਰੇ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ ਅਤੇ ਮੈਨੂ ਇਹ ਯਕੀਨ ਹੈ ਕੇ ਇਹ ਖਤਰਾ ਬਹੁਤ ਮਾਮੂਲੀ ਹੈ। ਮੈਨੂ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਦਾ ਢੰਗ – ਤਰੀਕਾ ਸਮਝਾ ਦਿੱਤਾ ਗਿਆ ਹੈ।

ਮੈ ਇਸ ਖੋਜ ਕੰਮ ਵਿਚ ਹਿੱਸਾ ਲੈਣ ਬਾਰੇ ਆਪਣੀ ਰਜ਼ਾਮੰਦੀ ਕਿਸੇ ਵੀ ਸਮੇ ਵਾਪਸ ਲੈ ਸਕਦਾ ਹਾਂ/ ਸਕਦੀ ਹਾਂ ਅਤੇ ਮੇਰੀ ਰਜ਼ਾਮੰਦੀ ਵਾਪਸ ਲੈਣ ਦਾ ਮੇਰੇ ਇਲਾਜ ਤੇ ਕੋਈ ਅਸਰ ਨਹੀ ਹੋਵੇਗਾ।

_____
ਗਵਾਹ ਦੇ ਹਸਤਾਖਰ

_____
ਮਰੀਜ਼ ਦੇ ਹਸਤਾਖਰ

ਮਿਤੀ_____

ਪਤਾ _____

ਮਿਤੀ_____

ਪਤਾ _____

_____
ਨਿਰੀਖਕ ਦੇ ਹਸਤਾਖਰ

_____
ਸਿਖਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ